

For The Obstetrical Society of London
from Dr. Hall Davis.
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THE
PRINCIPLES AND PRACTICE
OF
OBSTETRIC MEDICINE.

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THE
PRINCIPLES AND PRACTICE
OF
OBSTETRIC MEDICINE,
IN A SERIES OF SYSTEMATIC
DISSERTATIONS ON MIDWIFERY,
AND ON THE
DISEASES OF WOMEN AND CHILDREN.

ILLUSTRATED BY NUMEROUS PLATES.

BY

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MIDWIFERY, ETC. ETC. ETC.

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MDCCCXXXVI.



DAVID F. DAVIS, M.D., M.R.S.L.

TO THOSE GENTLEMEN,

NOW BECOME A NUMEROUS BODY,

WHO

DURING THE LAST TWENTY YEARS,

HAVE HONOURED HIS PRELECTIONS ON OBSTETRIC MEDICINE WITH THEIR ATTENDANCE,

THIS WORK IS RESPECTFULLY INSCRIBED,

BY THEIR FAITHFUL FRIEND,

THE AUTHOR.

4, FITZROY-STREET, FITZROY-SQUARE;

JULY 25, 1836.

TO THOSE CENTAUR

The first of the three parts of the work is a history of the
centaurs, from their origin to the present time. The second
part is a description of the various species of centaurs, and
the third part is a history of the various wars and battles
in which they have been engaged. The work is written in a
simple and plain style, and is intended for the use of
those who are interested in the history of the centaurs.

P R E F A C E.

ON undertaking this work the Author proposed to himself to furnish the Profession with a Text-Book, which should contain a moderately extended view of the Elements of Obstetric Medicine, together with references to the best authorities, for the facts upon which have been founded both its Theory and Practice. How far he has succeeded in carrying these purposes into effect, he must leave the well-informed reader to determine. It may be proper to remark, that the materials of which these volumes are composed are the accumulation of many years, the result of knowledge acquired both by extensive practice and by almost exclusive reading on the subject of the work. The References to Cases and other forms of Illustration may appear so numerous as to suggest a suspicion that a sufficiently severe discrimination had not been resorted to in their selection. Without pledging himself for the accuracy and even the truth of all the cases given, as reported in books, the Author begs to assure his readers that he has rarely, if ever, admitted even into his Note-Book statements not possessing strong claims, at least, to verisimilitude, nor has he derived them from sources of insufficient authority to entitle them to

much professional consideration. Some of the most important narratives in the work may have been deemed of inferior value, by reason of their remote date. Such an observation might perhaps especially apply to the very frequent references to the German Miscellanies. But with respect to that work, it may be truly remarked, that the Ephemerides abound with more valuable facts in Medicine and its auxiliary sciences, and those less encumbered with useless Theoretical Speculations, than the national Transactions of the same period of any other country in Europe.

The greatest care has been exercised to authenticate the numerous Pathological Histories referred to throughout the work, a great majority of the cases having been entirely perused by the Author for that purpose, and so much of all of them as the point or doctrine to be proved seemed especially to require. In exception, however, to the unlimited correctness of this fact, it should be stated, that in a very few instances, for want of access to the original authority, the narrative of such reporters as were deemed entitled to his confidence has been adopted.

To those Members of the Profession who have so kindly complied with the Author's request, at the commencement of his undertaking, by transmitting to him many curious and valuable cases, accompanied frequently with excellent reports of their modes of treatment, with its results, he begs to return his sincere thanks. Of many of them, his readers will observe, he has gratefully availed himself; and he trusts, that those gentlemen whose narratives have not appeared, will attribute the omission to no want of respect for the writers, but generally to the more than convenient length of their communications.

In the course of a work of such extent, undertaken as it has been by one person, a Physician engaged in other most responsible profes-

sional duties, it cannot be expected that all the subjects of the present work, so numerous and multifarious as they must be acknowledged to be, shall have received that uniform equality of illustration to which a Treatise of this kind might properly have laid claim. The Author can only regret that the execution of the whole and of every part of the undertaking is not more worthy of the liberal support with which it has been honoured by the Profession.

The Author is happy to think that, although the work has gone considerably beyond the limits originally contemplated and announced, both in the extent of the Letter press and number of Plates, the price has not been suffered to exceed the sum stipulated in the Prospectus.

Of the numerous lithographic prints which are given throughout these volumes the Author may perhaps be permitted to speak with almost unmixed satisfaction, as in his opinion they are generally executed with great truth and spirit. He feels therefore much obliged to Mr. W. Fairland for the substantially additional value which these pages have unquestionably derived from his excellent delineations. For the beauty of the line drawings exhibited in the representations of Instruments, given in most of the recently published Plates, he is especially indebted to M. Rue, of Mr. Hullmandel's Establishment. The number of Plates promised was upwards of 60: the number given is 65; of which 17 are Plates of double size: not to add that many of them are in fact representations of a considerable variety of kindred subjects delineated on the same page. In conclusion, the Author trusts that the work, now brought to a close, will gain for him the honest approbation of his readers, as having furnished for the student, by its direct instruction, the means of acquiring an accurate knowledge of a very important department of medical science, and for gentlemen

already established and experienced in practice, facilities by its numerous references for acquiring a more substantial and profound acquaintance with any division, or with the entire range of subjects of which it treats, than is usually considered necessary for the general purposes of the profession. Should these hopes be happily realized, he will feel himself rewarded for many years of toil and anxiety.

4, Fitzroy-street, Fitzroy-square,
July 25, 1836.

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The Second Class of Instruments are such as are calculated to ensure the preservation of the more important life of the Mother, at the expense, if indispensable, of that of the Child. The Instruments of this Class are the long Scissors of Dr. Smellie, or the Perforator of Dr. Denman, to which are to be added several Forms of Extracting Instruments for completing the Delivery after the previous use of the Perforator. Here we have to enumerate two or three different varieties of Guarded Crotchets, some for the Extraction of the Head, others for that of the Body; together with a variety of Instruments for reducing parts of the Child already mutilated into smaller portions, for the convenience of being more readily extracted without detriment to the easily lacerable tissues of the Mother. Under this head the Author treats at considerable length of the precautions necessary to be used in the performance of Embryotomy Operations, and then concludes the subject in a few brief remarks on the Cæsarean Operation - - - - - 1092

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INTRODUCTION.

CONTAINING AN OUTLINE OF THE PLAN OF THE WORK.

CHAPTER I.

IN advanced periods of the cultivation of some of the more important arts of life, the principle of division of labour has been recognised as useful and necessary towards their further improvement and perfection. In the pursuit of medical science as well as in its practical application, the same principle has been acknowledged and made available to the best purposes of medical education. Without neglecting any branch of study, essential to the acquisition of competent medical knowledge in all its departments, it seems proper that individual members of the profession should undertake to teach particular portions of the general science; and more especially those branches of it with which their accidental pursuits or opportunities may have made them most familiarly acquainted. On this principle are founded in Universities and other Great Schools throughout Europe, certain established arrangements, for assigning to different professors or lecturers different allotments of duty, corresponding with the various branches of science or literature required to be taught. In the greater number of such Schools and Universities one of the acknowledged branches of education, is that of Midwifery, or Obstetric Medicine, in its most comprehensive sense. Thus understood, Obstetric Medicine may be said to be identified with all the scientific principles and rules of art that can be made applicable, not only to the practice merely of Midwifery as synonymous with the professional assistance usually given to women during parturition, but also to the medical superintendence and treatment of their peculiar functions and diseases. Accordingly, in all the best appointed schools of medicine in modern times, it is made

the duty of the Professors of Midwifery to deliver lectures on the peculiar organs, functions, and diseases of the human female.

But so large a proportion of the diseases of women have reference to their characteristic attributes as mothers, or else to certain states of functions essential to their due qualification to become mothers, that heads of families have very naturally taken for granted that gentlemen practising midwifery, and therefore presumed to be especially conversant with the diseases of women, should equally deserve their confidence as medical attendants on their offspring. Accordingly a pretty ample portion of this latter practice, viz. the treatment of the Diseases of Children, does, in point of fact, usually devolve upon those physicians and surgeons who are willing to engage in the more laborious occupations of Practical Midwifery. But this very general decision of the public has been sanctioned by the approbation of higher and more competent authorities; as may be seen fully exemplified in the arrangements now existing, for the efficient distribution of professorial duties, in all reputable schools of medicine in the world. It is scarcely necessary to observe that in all these arrangements the teachers of Midwifery, who are the lecturers on the diseases of women, are also charged with the accessory duty of giving instructions for the treatment of the Diseases of Children. Influenced by these considerations, the Author of the present undertaking feels himself entitled to presume, that an appropriation of subjects which has been found most useful and convenient for communicating knowledge, orally and by lectures, to students of Medicine in PUBLIC SCHOOLS, may not be inconvenient, or otherwise objectionable, when the matter to be communicated is intended to be addressed, in a published work, to the more advanced or already educated members of the profession. It is accordingly the object of the work now about to be submitted to the reader, to treat of the art of Midwifery together with those other branches of medicine and surgery which are usually taught by the Professors of Midwifery in the principal medical schools of this and other countries.

It is the usual practice of lecturers on midwifery, and one which indeed cannot well be dispensed with on the part of teachers, who have to supply their pupils with opportunities of attending labours, to discuss the whole of the obstetric department of their subject at the beginning, or at an early period of their course; and then to take up in succession, respectively, the two remaining departments, the Diseases of Women and the Diseases of Children. The Author, however, hopes to be able to interest a greater number of readers by adopting what, he flatters himself, will be considered a more consecutive and philosophical arrangement of his matter.

The peculiar diseases of women are principally affections of organs which are proper to the sex. Of such organs there are diseases of structure and derangements of function. To obtain an accurate knowledge of either of these varieties of morbid condition, it is manifest that an acquaintance must be previously possessed with the structure and functions of the same organs in their healthy

state. In accordance with these views, the Author has chosen for himself an arrangement which he believes will enable him to treat of all the subjects, which he will have to discuss, in their most obvious connexion and natural juxtaposition under their respective heads of, **STRUCTURE, FUNCTIONS, AND MORBID STATES BOTH OF STRUCTURE AND FUNCTIONS.**

The Pelvis being the frame-work to which are naturally attached most of the organs interested in the diseases of women, the work will properly commence with a concise anatomical description of that part of the human skeleton. Then will follow a short statement of its uses or functions during health. Next will present itself for examination, the pelvis in its diseased state, or when become the subject of malformation or distortion incompatible with the performance of one or more of the most important functions which it has to sustain in the destinies of an adult female. Thus under one principal head of subject, will be given every thing necessary to be known about the pelvis; including its anatomy, or a description of its structure, form, and relations in the human body; its physiology, or a description of its uses or functions; and, lastly, its pathology, or a description of its diseased conditions. Under their several heads respectively will in like manner be described and treated of, all the organs and structures attached to or contained within the pelvis; first, simply and anatomically in their healthy states; secondly, as agents in the performance of healthy functions; and, thirdly, as the subjects of morbid conditions or actions. Thus it may be easily seen, that at a comparatively early period of his labours, the Author, by this arrangement, will have it in his power to bring under the consideration of his readers, some of the most interesting and important diseases to which the human female is subject. After, for example, giving a brief anatomical description of the unimpregnated uterus, he will be competent, according to the principle of his plan, to proceed without delay to the consideration of its functions, and, especially, of the one great function **MENSTRUATION**, by which it is qualified to become the subject of so many others. To this will follow a practical examination, including the causes, the history, and the treatment of all the diseases incident to this important organ; of its disorders, first of function, which will include the irritable uterus, disordered menstruation under all its forms, leucorrhœa, sterility, etc. And, lastly, its diseases of position and of structure; viz., morbid descent, prolapsion, procidentia, and hernia; inflammations and indurations of all kinds, producing scirrhusities, cancer, fungoid enlargements, &c.; diseased formations within its cavity, producing polypi, false conceptions, hydatids, etc., or within its proper substance, producing tumours of other kinds; together with numerous other diseased phenomena of a painful, and, ultimately, in too many cases, of a fatal character. After thus describing the uterine system in its unimpregnated condition, under **ANOTHER BRANCH** of the same general head of subject will be treated of, the modified anatomy, the altered or superadded functions, and the peculiar diseases of the **GRAVID UTERUS.**

In this part of our investigations will be presented to the reader, the principal facts appertaining to the curious subject of conception; as also, the development of the ovum, from the first moment of its mysterious existence, to its mature birth at the full period of gestation. Here, also, will be considered all the healthy phenomena of the pregnant state. In the remaining section of this interesting department of our subject will be considered such other conditions or results of pregnancy as are to be identified with disordered actions. This part of the inquiry will include the subjects of malpositions of the pregnant womb; such as prolapsion, retroversion, hernia, obliquities, etc., at various periods of gestation; painful states, and unkindly development of the uterus from rigidity or other causes; inflammations; separation of the ovum from its parent structure; diseases and death of the ovum in utero, productive of serious consequences to the mother; fevers and other constitutional diseases complicated with pregnancy; morbid states or actions of organs contiguous to the gravid uterus, as well, also, as of organs more or less remotely situated, but, nevertheless, exquisitely consenting with that great centre of female sympathies. Here also then, as in other parts of our undertaking, it may be observed that the same order and consecution of subjects are strictly pursued.

There is, first, the structure of the gravid uterus, accurately described and distinguished from that of the unimpregnated womb; then are indicated its newly-acquired properties and actions, comprising the ordinary phenomena of gestation; and, finally, the diseases both of structure and function, which occasionally present themselves during pregnancy.

The state of pregnancy happily consummated is naturally followed by parturition, which is usually a safe and a healthy function.

But parturition, when healthily and happily performed, is simply a functional process, and all the knowledge that can properly have reference to it, when it presents itself in this form, is knowledge of a mere function undisturbed by disease.

When, on the other hand, this important function becomes untoward; when accompanied by more than ordinarily violent actions of the womb, or of the heart and arteries; when it threatens to involve one or more lives in great jeopardy; then, indeed, the altered functional condition of the sufferer becomes a dangerous disease and a proper subject for active pathological treatment.

In this part of the work will accordingly be introduced such a development of principles and rules of practice as is usually designated in books and in schools of medicine, *THE THEORY AND PRACTICE OF MIDWIFERY*; which will comprise an enumeration of all the varieties of labours, a practical distribution of them into classes, orders, and subdivisions, as founded respectively on their characters and causes; and, finally, an ample descriptive exhibition of the means, whether manual or instrumental, preventive or remedial, best calculated to ensure, if possible, the preservation of both the mother and her offspring,

or, at least, all the good attainable by the most judicious indications of our art in its present state of acquirement.

There is one peculiarity which especially attaches to all the functions of the gravid uterus, and which, inasmuch as it appears to influence the actions and results of parturition more than it does those of any other function of that organ in its gravid condition, it seems proper to notice in this place; and that is, that they constitute an assemblage or class of actions and conditions superadded to the natural attributes of the womb in its unimpregnated state. The functions both of life and of health may be said to be perfect in the absence of that condition of the uterus which constitutes gravidity. May it not be reasonably presumed that to this circumstance are, in a great measure, to be attributed the extraordinary constitutional disturbances, the dangerous fevers, and the intense inflammations, which we have so frequently to encounter in the puerperal state? On a fitting occasion, this suggestion may obtain further illustration. Suffice it for the present to apprise the reader, that the history and treatment of the diseases of the puerperal state will occupy the concluding section of the obstetric department of our undertaking.

The Diseases of Children will be treated of in the latter part of the work, and will be arranged under certain heads of subject, founded on the nature of the tissues principally or exclusively affected. The Author does not consider this arrangement perfectly unobjectionable; for it frequently happens that more tissues than one are implicated by the same disease. But, upon the whole, he prefers it as one sufficiently practical for his purpose, and as bearing something of analogy, at least in its principle, to the plan which he has adopted in the preceding and larger portion of his work. Accordingly, he will treat of the diseases of children under the several divisions following:—

1. Of the DIGESTIVE ORGANS, their FUNCTIONS and DISEASES.
2. Of the structures, functions, and diseases of the respiratory organs.
3. Of the circulation of the blood; its organs, and derangements.
4. Of the anatomy, physiology, and diseases of the mucous membrane, not already treated of under any of the foregoing heads.
5. Of the affections of the lymphatic and glandular systems.
6. Of the brain and nervous system; their functions, mutual relations, and diseases.
7. Of the structure and properties of muscles; their dependence on the nervous system, and their diseases.
8. Of anomalous and adventitious structures, congenital diseases, malformations, etc. difficultly classed in any of the preceding sections.

CHAPTER II.

A GENERAL DESCRIPTION OF THE PELVIS. OF THE PELVIS OF THE FŒTUS.—
OF THAT OF THE YOUNG SUBJECT AFTER BIRTH.—OF THE ADULT PELVIS.—
THE MALE DISTINGUISHED FROM THE FEMALE PELVIS.—OF THE CONSTITUENT BONES OF THE PELVIS.—OF THE STANDARD FEMALE PELVIS.—OF PELVIMETERS.—OF DEVIATIONS FROM THE BEST FORMS OF PELVES.—OF DIFFERENT VARIETIES OF DEFORMED PELVES, ETC., ETC.

OF THE PELVIS.—This portion of the architecture of the human skeleton may be presented to the reader under several different aspects and relations, of which none can be deemed uninteresting to the student of Midwifery. We have, first, the foetal pelvis, remarkable for the rapid changes and modifications which it undergoes during its development in the foetal state. Then there is the pelvis of the young subject, after birth, retaining for several years some of its principal foetal distinctions. Again we have the adult pelvis, completed both as to its permanent structure and dimensions, but presenting many characteristic differences, when examined with a reference to the two sexes. Sometimes we speak of the recent or living pelvis, and then of course maintaining its proper connexion with the parts which are naturally attached to it, and at other times of the dry or prepared pelvis, when after the removal of those parts, it is made more convenient for the purposes of demonstration. The teacher of Midwifery has most frequently to determine the attention of his pupils to the properties, whether natural or accidental, of the adult female pelvis, and then principally to its capacity and dimensions: and here we have the distinctions of small, large, standard, well-formed, deformed, rickety, and distorted pelvis. In a work like the present, it would seem proper to offer a few descriptive observations in illustration of the pelvis under these several circumstances.

The pelvis is that assemblage of cartilages, or of cartilages and bones, or of bones almost exclusively, according to the age of the subject, which is immediately situated between the lowest of the lumbar vertebræ and the superior extremity of the thigh bones.

The term pelvis, which the word basin represents both in the English and French languages, is derived from $\pi\epsilon\lambda\upsilon\varsigma$, a Greek word of similar sound and of the same meaning. The resemblance of the pelvic cavity to the well-known domestic utensil of that name is the obvious reason of its anatomical designation.

THE PELVIS OF THE FŒTUS.—During the earliest weeks of gestation, the pelvis consists of portions of a gristly or cartilaginous structure, imbedded in a substance of a pulpy or gelatinous consistence, and all connected together by the yet tender external integuments and rudiments of ligamentous tissue.

About the middle of the ninth week of gestation, minute deposits of osseous structure may be observed to have been secreted in or about the centre of each of those lateral cartilages, of which the whole are eventually to be converted into iliac bones

Then successively may be seen deposited the materials of each os ischium and os pubis, at first in very minute quantities; but in daily and rapidly increasing progression, as to the amount of the deposit. The posterior portion of the pelvis is the last in the order of development to become in any degree ossified; and then the process commences at the superior link or false vertebra, and proceeds successively to the inferior: but even at the full period of gestation, the caudal termination of the sacrum, or the os coccygis, is in no degree ossified. This gradual development of the fœtal pelvis may be seen very satisfactorily illustrated in PL. I. FIG. III, IV, V. It is intended, no doubt, as a provision of nature for the rapid growth of the young subject during its fœtal state; whilst, in reference to parturition, in cases especially of breech presentation, it becomes the means of securing an easy and convenient packing of the presenting part during its transit through the birth.

OF THE PELVIS OF THE YOUNG SUBJECT AFTER BIRTH.—At birth, the pelvis is only very partially finished as to its ossification: the intermediate cartilages between its several constituent bones, continuing to bear a very considerable proportion to its entire assemblage of bones and cartilages. The extension of the osseous proportion is not, indeed, very rapid even after birth; and the several portions of the ossa innominata, to be hereafter described, remain distinct, and separated by cartilages, till within a very short interval of what is called the age of puberty. The most interesting circumstance incident to the pelvis of the infant and the child, is the great similarity of its form in both sexes until about the tenth year of their respective ages. Nature then begins to declare her special intentions with respect to the destinies of either sex, and the pelvis of the one becomes characterised by the comparative smallness of its cavity, strength of its parietes, and the narrowness of its dimensions from side to side; and that of the other, by its lightness, shallowness, and daily increasing width between its iliac extremities.

OF THE ADULT PELVIS.—When the pelvis has acquired its proper size and form in the adult subject, it bears a certain most desirable proportion in weight and bulk to the other parts of the osseous system. When these mutual proportions are perfectly maintained, then this part of the body is said to be perfectly symmetrical and beautiful. But the proportions which are considered most beautiful and symmetrical in the one sex are not deemed so in the same degree, or even not at all, in the other. Hence it is a matter of common observation,

that this portion of the female skeleton is much wider and more expanded than that of the male. On this fact artists have founded a rule of practice in their drawings and mouldings of the naked figure, which is considered as being fully recognised and approved of by the best masters; and which is, that the lateral extremities of the hip bones of the female figure, and the corresponding extremities of the shoulders of that of the male should be bounded respectively by the same parallel lines. Of the observance of this rule in some of the best works of antiquity, it is well known that the Apollo Belvidere and the Venus de Medicis are interesting examples. But, besides being much narrower between one iliac extremity and the other, the male pelvis is distinguished from that of the female by many other important and characteristic differences. In all nations, of which we have any authentic history, the man has been the larger and the stronger subject. On him have accordingly devolved the more laborious occupations, and the more perilous pursuits incident to the support and protection of his family. He has been principally the tiller of the ground, the warrior, the traveller, the athleta, the knight errant, and the tyrant. For him, accordingly, nature has allotted a skeleton of a more massive carpentry. The parietes of his pelvis are made of denser and heavier materials; its surfaces are made scabrous and uneven, sometimes spiculated, or furrowed out into deep apertures and sinuosities, to give secure fastenings to the immense ligaments and tendons which serve to connect together its constituent bones, to connect the whole of it with the thigh bones, and to give attachment and leverage to many of the most powerful muscles of the human body. Adapted also partly for strength, but principally for specific purposes in a sexual point of view, the male pelvis is much deeper, but in other respects, smaller than that of the female as to its interior cavity; more cordate and less oval at its brim; shorter in all the diameters of its outlet; having its arch of the pubes much narrower, and its sacrum distinguished by a greater degree of curvature. Add to all, the greater dimensions in width and depth, and smaller in distance from each other, of its acetabular cavities. SEE PL. I. FIG. II.

OF THE CONSTITUENT BONES OF THE PELVIS.

THE SACRUM.—The most largely developed portion of the spinal column, of which this bone forms the base, occupies the posterior part of the pelvis. It is formed by the union of five, occasionally of six, vertebræ, of which the conformation is so modified as especially to adapt them for the purposes which they serve. In other parts of the spinal column, considerable movement being required, the mode of connexion of its vertebræ is such as to secure the attainment of that object. But, in the sacrum, which receives the weight of the entire trunk on its base, and transmits it laterally through the medium of the ossa innominata to the lower extremities, solidity is an essential object: hence the several parts, the one to its immediately adjoining portion, are immovably united together by ankylosis. When viewed in its natural state, it will be seen that the direction of the



sacrum is not vertical. It is inclined obliquely downwards and backwards; so that an angle is formed with the lumbar portion of the column, which is called the sacro-vertebral angle or promontory, to which more particular reference will be made hereafter. Its form is somewhat triangular, the base being determined upwards, and the apex in the opposite direction. The anterior or pelvic surface is concave, and marked by four transverse ridges, which indicate the original separation of the five vertebræ of which the sacrum is made up. Externally and immediately opposite to those ridges are four, sometimes five foramina, called the anterior sacral, placed vertically one over another. They transmit the anterior branches of the sacral nerves, with some veins and small arteries. The posterior or spinal surface is convex in the same degree as the anterior is concave. In the median line it presents a vertical crest, in continuation of that formed by the spinous processes of the lumbar vertebræ. Externally the posterior sacral foramina, smaller in size than the anterior, serve to give passage to the posterior branches of the nerves. These foramina are placed between two rows of tubercles, which represent the articular and transverse processes of the vertebræ. The lateral surfaces, broad and thick superiorly, are partly covered by cartilage, for connexion with the ossa innominata; whilst the anterior are very thin, and give attachments to the sacro-ischiatic ligaments. The base of the sacrum elongated transversely presents in the middle an oval surface, by means of which and two articular processes, a connexion is established between this bone and the lowest lumbar vertebra, in the same manner as between other parts of the column. Behind the oval surface or body is the commencement of the sacral canal, which thus becomes a continuation of the spinal canal formed by the apposition of the true vertebræ. The apex has a smooth surface for articulation with the coccyx. The analogy to vertebræ, gradually decreasing towards the lower extremity of the sacrum, is here wholly lost, so that the ossa coccygis can scarcely be recognised to present even a rudiment of the character of vertebræ.

THE OS COCCYGIS.—The coccyx consists of three or four small pieces, which diminish in size from above downwards. The first has small laterally projecting processes, by which it is connected to the sacrum. The last is a small rounded ossicle. The coccyx gives continuousness to the curvature of the sacrum, and furnishes points of attachment to the sacro-ischiatic ligaments, and the coccygeus muscle. The degree of motion of which the coccyx is susceptible, is very various. In general, however, it is much more considerable in the female than in the male subject. The greater mobility in the female obviously serves the purpose of permitting the greatest possible space for the passage of the head of the fœtus. In some cases its connexion with the sacrum is solidified, even in the female; in which event it is rendered liable to fracture during parturition.

THE OSSA INNOMINATA, ossa coxarum.—These form the lateral and anterior boundaries of the pelvis. Each bone consists, in early life, of three distinct parts; viz. the ilium, ischium, and pubis; of which, the first forms the largest, and the last the smallest portion of the entire bone. The shape of the os innominatum is

very irregular, contracted towards the middle, and expanded towards the extremities. The outer surface is divided into two unequal parts by a deep circular cavity, the acetabulum, into which is received the globular head of the thigh bone. In this cavity the three divisions before alluded to are united each to both the others. The part of this surface posterior to the acetabulum, the dorsum of the ilium, considerably expanded, triangular, and convex, consists altogether of the ilium, and gives attachment to the glutei muscles. Anterior to the acetabulum, the outer surface presents a large foramen, the obturator or thyroïd, differing in shape in the male and female. It is bounded superiorly by the pubis, inferiorly by the tuberosity of the ischium; on the outer side by the acetabulum, towards the median line by the rami of the pubis and the ischium. The inner surface is divided into two parts by a line, called the linea ileo-pectinea, which being continued around the pelvis, divides the superior or greater pelvis, from the inferior or smaller cavity, which is the proper or true pelvis of Midwifery. Above the linea innominata, as the line just indicated is also sometimes called, is a concave surface, the iliac fossa, occupied by the iliacus muscle; and posteriorly there is a rough surface, partly tipped with cartilage for connexion with the sacrum. Whatever of inner surface is situated below the linea ileo-pectinea enters into the formation of the true pelvis. It includes the obturator foramen, external to which is a broad inclined plane to be afterwards noticed, and internal to it a smooth surface, of which a part gives attachment through the medium of cellular tissue to the bladder. The obturator hole, in the living subject, or in the recent state of the parts, is occupied by a dense fascia, which completely fills it up, except superiorly, where it affords a passage to the obturator vessels and nerve. The aperture through which these pass is partly formed by a groove directed obliquely forwards and inwards along the under surface of the pelvis. The obturator muscles cover the fascia and contiguous parts of the bone. The superior border of the bone is named the crest of the ilium. The posterior presents two notches, which enter into the formation of the sacro-ischiatic foramina. They are separated by the spine of the ischium. The anterior portion may be divided into two parts, one of which is vertical, and by being connected with the corresponding part of the bone on the opposite side, forms the symphysis of the pubes; whilst the lower portion inclines obliquely outwards and downwards, and forms one of the sides of the pubic arch.

OF THE ARTICULATIONS AND FASTENINGS OF THE PELVIS.—The bones which enter into the formation of the pelvis are in general most firmly connected one to another. This solidity of union is indispensable to the capability of maintaining the erect position of the body, and especially to progression. It is remarkable, however, that the articulations, which are so very solid, when solidity alone is required, become somewhat softened and relaxed during gestation, especially towards the period of its termination, so as to allow of some small degree of enlargement, or at all events of modification as to the form of the

pelvic cavity when a child of large size is to be transmitted through it. This laxity of connexion among the bones of the pelvis is a principal cause of the difficulty of progression immediately before and after parturition. The connexions established between the several component parts of the pelvis are those which unite, 1st, the sacrum and the coccyx; 2d, the sacrum and the ossa innominata; and 3d, the ossa innominata, the one to the other. The union between the sacrum and the coccyx, as well as between the several pieces of the coccyx, is analogous to that which exists in the other parts of the spinal column, consisting of interposed fibro-cartilaginous substance and an anterior and posterior fascial band of ligamentous fibres. The extension downwards of the posterior ligament ends with the termination of the spinal canal at the apex of the sacrum. The connexion between the sacrum and each os innominatum, called the sacro-iliac symphysis or synchondrosis, is perhaps the strongest in the human body. The corresponding osseous surfaces are in some degree separated from each other by each being tipped with a thin cartilage; but the effect of the mechanism of this articulation is, that the ridges of one of its surfaces corresponding with the deep hollows of the other, are mortised together in such a manner, as scarcely to admit of the possibility of dislocation. The posterior part of the sacro-iliac junction is very rough, and affords attachment to irregular, and very numerous and strong ligamentous fibres, called the posterior sacro-iliac ligament disposed transversely between both bones. It is to the presence of this ligament that much of the firmness of the articulation is to be attributed. A bundle of fibres in nearly the same situation, but stretching in a direction obliquely vertical, is sometimes described separately, under the name of the inferior sacro-iliac ligament. Above and in front, the articulation is farther supported by ligaments named from their respective positions. That in front of the joint especially is very thin and membranous. In addition to the foregoing ligaments, by which the union between the sacrum and the os innominatum is chiefly, if not wholly maintained, there are others, the sacro-ischiatic ligaments, which would seem to be destined to complete the walls of the pelvis. The posterior or larger sacro-ischiatic ligament is attached by one extremity to the tubercular eminences on the side of the sacrum and to the coccyx; and by the other extremity, to the tuberosity of the ischium. The anterior sacro-ischiatic ligament is considerably intermixed with the preceding at its attachment to the sacrum, and is inserted to the spine of the ischium. These ligaments have the effect of converting the ischiatic notches into foramina, which give transmission, the larger to the pyri-formis muscle, and to the gluteal, ischiatic, and pudic vessels and nerves; and the smaller to the obturator internus muscle, and to the pudic vessels and nerves.

The articulation of the ossa innominata, one to the other at the median line in front of the pelvis, is called the symphysis of the pubes, and is formed by the close approximation of two oval surfaces on the inner border of the vertical part of each bone. Each osseous surface is covered by cartilage or fibro-cartilage;

which is thicker anteriorly than behind, in consequence of the bones not approaching each other so closely in the latter as in the former direction. Between the opposite surfaces of the bones which form this symphysis is a small quantity of a softish and yellow substance, similar to intervertebral substance. The entire articulation is surrounded by ligamentous fibres. Those situated in front, called the anterior pubic ligaments, are of considerable strength, disposed obliquely, and are evidently continuous with the aponeurosis of the external oblique muscles of the abdomen. The sub-pubic ligament, of which the name indicates the position, occupies the apex of the triangular space formed by the divergence of the rami pubium. The ligamentous fibres above and behind the symphysis of the pubes are inconsiderable. The obturator ligament is properly a membrane, and serves to fill up the obturator foramen, leaving however a small space at the upper part of it, through which the obturator vessels and nerve pass. It is covered on both surfaces by the obturatores muscles.

OF THE DIMENSIONS OF THE FEMALE PELVIS.—Having briefly described the several constituent bones of the pelvis, the mechanism of their articulations, and the kinds of materials which nature has employed to bind them together, so as to form a most important portion of the skeleton as it exists in both sexes; the author is now prepared to undertake a description of the pelvis as a whole, and as it especially forms the osseous outwork of the parturient passage in the female. PL. I. FIG. 1. The properties of the pelvis which have the most direct influence upon the function of parturition, are the dimensions of the tube or passage which occupies the space within its parietes. The word standard has been applied as a descriptive epithet to pelves of certain average dimensions, such as are considered common to the greatest number of well-formed women. It has been said that Dr. Burton of York, see “An Essay towards a Complete New System of Midwifery, etc., by John Burton, M.D.,” was the first person in this country who submitted to the profession an accurate admeasurement of the female pelvis. Mackensie’s Lectures on Midwifery, MSS. The method suggested by Dr. Burton, for measuring this important part of the body, was so well calculated to furnish accurate results, that it has ever since been adopted by teachers and practitioners in midwifery. In speaking of the entire pelvis, it may be useful in this place to allude to a distinction recognised by Dr. Burton, and much insisted upon by continental writers, between the hypogastric cavity, which has been called the superior or large pelvis, and the cavity which is bounded superiorly by the linea ileo-pectinea, which has been called the true or small pelvis.

The parietes of the hypogastric cavity are furnished anteriorly by the soft distensible structures which form the hypogastrium in front, laterally by the smooth costal surfaces of the iliac bones, cushioned by muscles as already described, posteriorly by a lumbar portion of the spine and inferiorly by the linea ileo-pectinea. As a free communication exists between the hypogastric cavity, or that of the superior pelvis, and the inferior cavity, or that of the proper pelvis of midwifery, the former has for that reason been sometimes called the

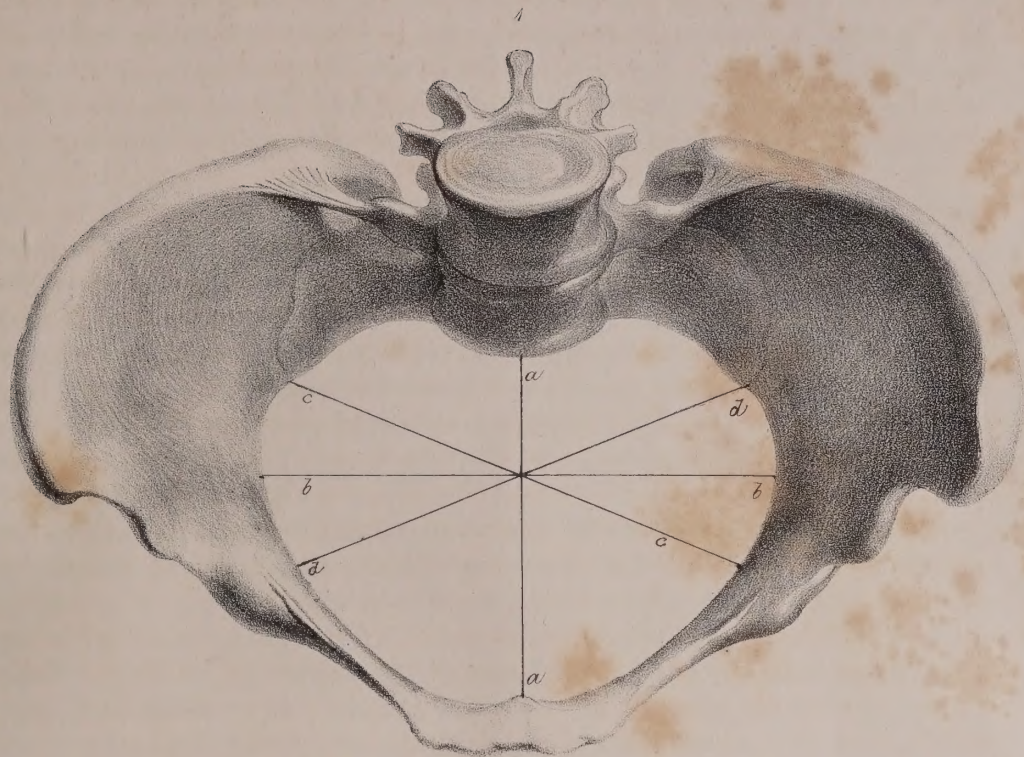
false pelvis. The anterior parietes of the hypogastrium consisting of almost unboundedly yielding structures, it has not been usual, nor is it indeed practicable to offer any standard admeasurement of its capacity. The width, however, of its brim is measured by a line taken from the remotest point of the costal edge of the crest of the ilium on one side, to a corresponding point of the ilium of the other side. This line has been called its lateral or transverse diameter, and measures $10\frac{3}{4}$ inches in the best-formed women. The parietes of the hypogastric cavity form the natural couch on which the uterus may be said to repose during the latter months of gestation; and as the posterior portion of it is bounded by a projecting part of the spine, and it can only yield in front, it becomes important that its lateral parietes should be broad, smooth, slightly hollowed out, and diverging from the inferior pelvis at such an angle, as specially to adapt them for giving support to large portions of the pregnant womb during its greatest natural distension, most advantageously to the security of its contents, and to the general influences and results of the function in which it is engaged. Accordingly the iliac sections of the superior pelvis, appear to be so constructed, as if they had been formed on purpose to ensure the attainment of these several objects.

OF THE INFERIOR OR SMALL PELVIS.—This is the proper pelvis of midwifery. Whilst the superior or false pelvis gives convenient lodgment and security to the uterus during its latter months of gravidity, it is this that forms the boundaries of the passage through which its contents are to be transmitted at the full period of gestation. Hence it is to the dimensions and other properties of the inferior cavity, that the obstetric practitioner has to determine his principal attention. The bones which constitute the boundaries of this cavity are so constructed and mutually connected, as to form the parietes of a pretty regular tube or canal. The commencement or superior opening into this tube is often called its superior aperture. The space of this part, by reason chiefly of the projection forwards of the sacro-vertebral promontory, being something smaller than within the actual cavity, it is usually called by the French the superior strait. In this country it is most frequently designated the brim of the pelvis. The inferior termination of the pelvic passage, is called its inferior aperture, sometimes its inferior strait, but generally in England its outlet. The space in the interior of the cavity being something greater than it is found to be at its apertures, it has usually been deemed sufficient to give the diametrical dimensions of the pelvis only at those parts.

THE BRIM forming the entry into the cavity is always made the subject of the first admeasurement. It is presumed to include a space of an imperfectly circular form. Lines are accordingly drawn through its centre, from and to opposite points of its circumference. These lines are called diameters. The space to be measured not being, however, perfectly circular, the diametrical lines, or rather the lines somewhat inaccurately expressed by the term diameters, must be of unequal length. Hence the epithets long and short, as applied to at

least four of the principal lines which are thus employed to measure the pelvis. The brim or superior aperture is measured by the four following lines; 1st, by a line taken transversely from the extremity of the space on one side, through its centre, to the opposite extremity on the other; 2dly, by another line, drawn also through the centre of the space, which will generally bisect the former at right angles, from the sacro-vertebral angle, to the symphysis pubis; and 3dly and 4thly, by two lines extending from the sacro-iliac junctions, respectively of either side, obliquely across the centre of the space, to opposite points of its circumference anteriorly. The first of the above lines being the longest that can be drawn across the space in question, provided it be drawn through its centre, is called the long diameter. It is also called the lateral, because it measures the space from side to side; and the transverse, because it is drawn transversely across the space which it is intended to measure. Its length is five inches and a quarter. PL. II. FIG. I. *b. b.* The short diameter is in like manner the shortest diametrical line that can be stretched from one part of the brim of the pelvis to another. It is also called the sacro-pubic (sacro-pubien Fr.) from its terminating points; and conjugate, possibly from its being the median line which here serves to connect together, after the manner of a yoke, the two parallel and equal spaces on either side of it. Its average measure is four inches and a quarter. PL. II. FIG. I. *a. a.* The two oblique diameters, so called, no doubt, because they cross the pelvis in oblique directions, are necessarily, in perfectly symmetrical pelvises, of equal length. In pelvises, however, of which the space on one side of the median line is less than that on the other, the oblique diameters must be unequal. Their common length when equal is five inches. PL. II. FIG. I. *d. d.* It should here, however, be observed, that though inferior in length to the transverse diameter, which in the dry subject measures five inches and a quarter, they are nevertheless examples of the longest diametrical lines which can be drawn across the brim of a well-formed recent or living pelvis; some portion of the space within the brim, on either side of it, being in fact occupied by the *psoæ mcles*, and great blood-vessels and nerves which have to pass by the way of the pelvis to the lower extremities. Such are the best dimensions of the brim of a female pelvis.

THE OUTLET.—The space between the inferior boundaries, which form the outlet of the female pelvis, is quadrangular, and, like the brim, is measured by lines which have been called diameters. The long and short diameters of the brim are reversed at the outlet. The long diameter of the outlet extends from the inferior termination of the symphysis of the pubes to the tip of the os sacrum, and measures five inches; SEE PL. II. FIG. II. *a. a.*; the presence of the os coccygis, which is pushed back during labour, not adding materially to its length. This line is also known by the name of antero-posterior diameter. The short or transverse diameter of the outlet extends from the tuberosity of the ischium of one side, to a corresponding point of the tuberosity of the opposite ischium on the other side. Inasmuch, however, as the tuberosities of the ischia present



a considerable extent of space, it becomes necessary to indicate the points referred to with precision. They are determined by the locality of insertion of the posterior sacro-ischiatic ligaments to their respective tuberosities, inasmuch as these points determine the extreme boundaries of the space at the outlet of the pelvis in these directions. The average length of this diameter is four inches. PL. II. FIG. II. *b. b.*

The form of the outlet is much less regular than that of the brim of the pelvis. With the sacro-ischiatic ligaments attached, it presents the figure of an imperfect oval, or an oblong quadrangle, having its lateral angles considerably rounded off at the ischial tuberosities. By being clothed with the soft structures which nature has attached to it, the outlet of the parturient passage is eventually finished into a comparatively small aperture, which entirely loses its quadrangular character, and becomes, to a certain extent, capable of assuming any form adapted to its natural functions, or required by any operations of art, which it may have to sustain.

OF THE DEPTH OF THE FEMALE PELVIS.—The female pelvis, as has been already observed, is distinguished from that of the male by being considerably shallower, or by having less depth; a provision obviously calculated to diminish the length of the parturient passage. It is, however, of very unequal depth at different parts. At the symphysis pubis, its depth is only an inch and a half; laterally, from the brim to the tuberosity of the ischium, it is about three inches and five-eighths; but posteriorly, it measures about four inches and a half without the os coccygis. Fourteen pelves, all of moderately good conformation, are placed before the author whilst he is drawing up this account. Of these, the respective depths ascertained by measuring the distance in straight lines from the base of each os sacrum to its apex, are in five of them—from $3\frac{1}{2}$ to 4 inches, in one $4\frac{1}{8}$, in one $4\frac{1}{4}$, in two $4\frac{1}{2}$, and in all the rest $4\frac{3}{4}$, or upwards. Adding something for the concavity of the sacrum, the depth of the unyielding portion of the pelvis behind, will be found, on an average, to measure at least four inches and three-quarters. The caudal appendage to the sacrum, the os coccygis, recedes upon the pressure of the child's head being applied to it, to an amount sufficient to warrant our withdrawing it almost altogether from the present calculation. The unequal depths of different parts of the pelvis, is a fact deserving of very particular attention on the part of a young practitioner of midwifery. At the full period of gestation, the head of the child is found to bear in most cases immediately on the brim of the pelvis; which constitutes, as has been already seen, a part of the flooring of the superior or false pelvis. If on the accession of labour the orifice of the uterus should be found considerably dilated, an inexperienced medical attendant on passing up his finger in front and within the pelvis, immediately behind the symphysis pubis, and finding the presenting part of the child occupying a position within an inch and a half of the outlet, might too easily come to the conclusion that the delivery was at hand. An imprudent statement to that effect, might pos-

sibly injure his credit with his patient. It will be hereafter seen, that the duration of a labour bears a direct proportion to the time which the presenting part of the child occupies, in being propelled along the hollow of the sacrum, and the remaining portion of the parturient passage posteriorly. This part of the subject will be better understood, when more particularly described hereafter under the head of Natural Labour. But there are some other circumstances to be adverted to, in our present description of the pelvis; of which one of the most important, is the width of the arch of the pubis.

OF THE ARCH OF THE PUBES.—It has been already stated, that the anterior portions of the ossa innominata, advance to meet each other at the median line in front; and by so meeting, form the symphysis of the pubes. At the inferior extremity of the junction, they again diverge from each other in two descending columns; which after being sufficiently produced, gently incurvated interiorly, and otherwise adapted for their purpose, become the sides respectively of the arch of the pubes. The angle formed by the divergence of the two sides is the apex of the arch; where, in artificial masonry, would be situated its key-stone. The short diameter of the outlet of the pelvis, which is a line drawn from the tuberosity of one ischium to that of the other; that is, from the inferior extremity of one side of the arch to the same point correspondingly of the other, is at once the base of an equilateral triangle, the sides of the arch of a well-formed pelvis being equal, and a measure of the angle which it subtends. The inferior extremity, however, of the symphysis pubis is not an angle in the living subject; it being filled up by the sub-pubic ligament, which, as it is perfectly inelastic, has the effect of converting the angle into the apex of an actual arch; which being further filled up by the presence of the mass of structure which forms the neck of the bladder, and the urethra, a space is left at and on either side of its apex, sufficiently wide to admit of being completely filled up by the convex head even of a large child, during its transit through the pelvis. The depth of the pubic arch, in the dry subject, measured by a line drawn from its apex to the centre of its base, is two inches; whilst its curved lateral parietes are each three inches and a quarter. It will here easily occur to the reader, from what has been already said of the width of the female pelvis, that in the male subject, the arch of the pubis must be much narrower than it is in the female. It may be added, that its curvature both superiorly and laterally is also much less. So well does Nature, in this as in other parts of the body, suit her means to her ends.

OF THE INCLINATION OF THE PELVIS.—The existing position of the pelvis in the human body is admirably adapted to its various purposes. Many of those purposes are common to both sexes, and we therefore find that in the relative position of the pelvis in the skeleton of each, there is no great variation. The position which it actually sustains, is that of a considerable deviation of its axis from those, either of the spine which it supports, or of the lower extremities by which it is supported. The weight of the body, whilst standing or walking,

is necessarily supported in the line of its perpendicularity. Descending through the spine to the limit of its connexion with the pelvis, it there becomes as it were resolved into two principal portions, to be transmitted through the acetabula to the lower extremities. Were we to suppose the spinal line to be produced without this distribution of it into two portions, it would pass through an upper section of the superior false vertebra of the sacrum, find its way through the symphysis pubis, continue its course at equal distances from the extremities, and reach the horizon at right angles. Such is the axis of the body, in an erect position. But the axis of the pelvis is a straight line (PL. III. AT *f. g.*) transmitted through the centre of its cavity, which would bisect the former line at unequal angles. The inferior angle thus formed, amounting to about thirty-five degrees, is a correct mathematical measure of the inclination of the pelvis, in a well-formed female subject.

OF THE AXIS OF THE PELVIS, CONSIDERED OBSTETRICALLY.—The straight line transmitted centrally through the space contained within the parietes of the pelvis, referred to in the preceding section, is not synonymous with the axis of the pelvis, as the term axis is ordinarily applied by teachers of midwifery. In strict propriety of language, an axis is a straight line; but in admeasurements of the female pelvis, the term has been used to express a curved line passing through the centre of the space within its curved tube, and equi-distantly situated from all opposite points of its parietes. The axis of the cavity of the pelvis, as thus understood, is accurately represented by the dotted line *d. c. e.* which is drawn centrally to the parietes of the pelvis in PL. III. This line produced superiorly, which it is in the figure at the part where it loses its dotted character, is intended to give an idea of the axis of the brim of the pelvis, and when produced in like manner inferiorly, that of the axis of the outlet. Some authors have chosen to divide the axis of the pelvis into three straight lines: viz. one to represent the axis of its brim, another that of its cavity, and a third that of its outlet. With the conversion of the middle axis into a curved line, which is to be identified with a similar curved line or axis of the child's head during its passage through the pelvis, this understanding of the matter is sufficiently practical. When the child has to enter into the pelvis, whether propelled into it by the powers of nature, or brought into it by any assistance of art, it should be made to engage at the superior aperture in correspondence with the axis of the brim. When again it has to traverse the intermediate cavity between the brim and the outlet, it follows, or is to be assisted in its progress in strict correspondence with the curved line central to all opposite points of the parietes of the cavity as already described; and when it shall have descended to the flooring of the pelvis, it is then propelled, or when necessary, is to be withdrawn, in a line with the axis of the outlet.

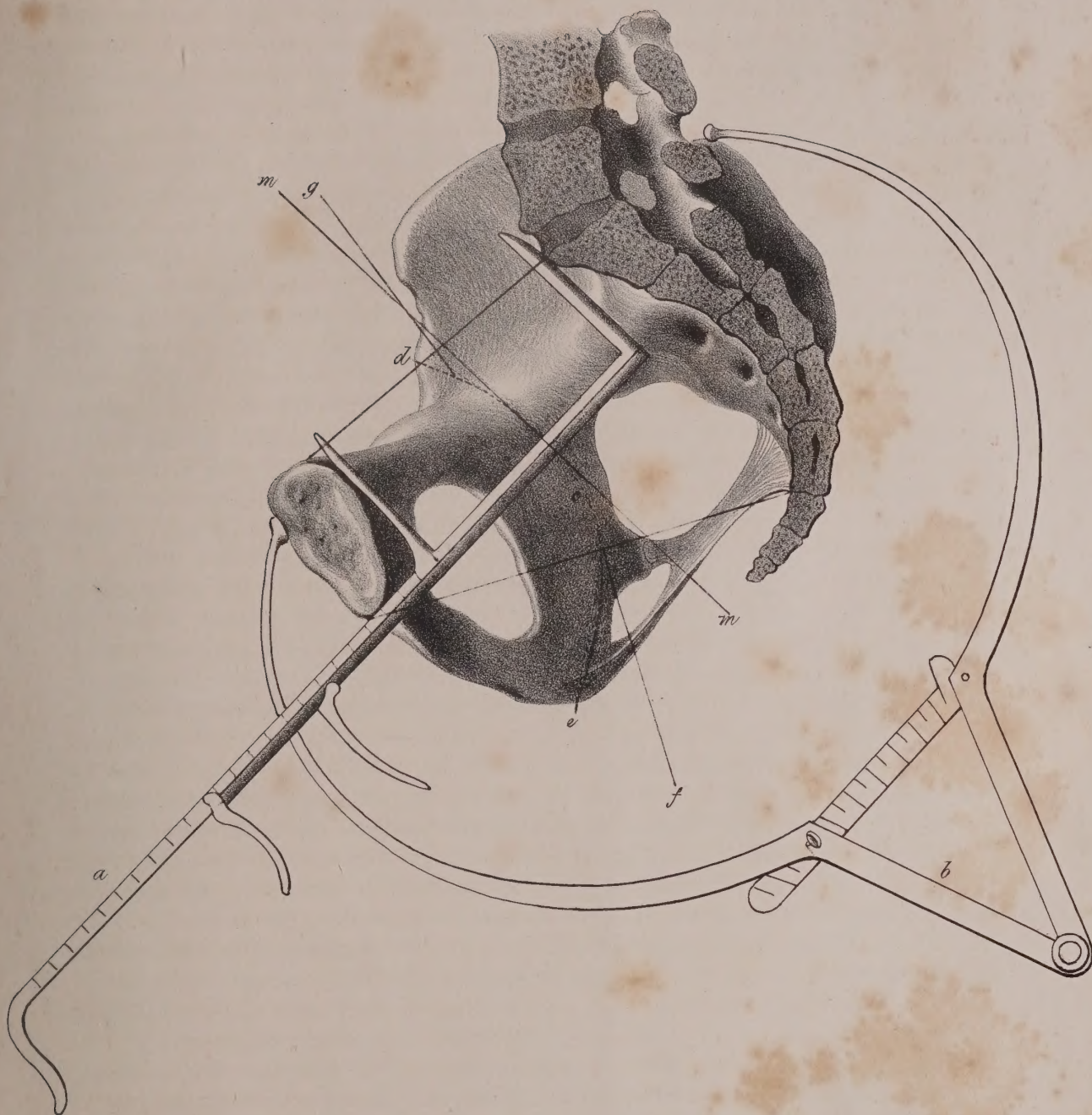
Such are the principal circumstances in the obstetric history of a pelvis of standard dimensions. In order however to ascertain the actual relations of the pelvis, and especially to establish, in doubtful cases, the fact of sufficient dimen-

sions for the purposes of midwifery, and in others the amount and character of deviations from such dimensions, certain instruments for taking measures of the pelvis, and therefore called pelvimeters, have been proposed and recommended by ingenious men.

OF PELVIMETERS.—Dr. Aitken of Edinburgh suggested the use of a graduated catheter for this purpose. See Aitken's *Principles of Puerperal Medicine*. The point of the catheter is directed to be passed across the interior of the pelvis, from the apex of the arch of the pubis to the promontory of the sacrum. Allowance being made for the obliquity of this line, and for the thickness of the pelvis at the symphysis of the pubes, viz. about half an inch; it is presumed that the scale on the catheter would pretty correctly indicate the length of the conjugate diameter of the brim of the pelvis. This suggestion, however simple and practical it may appear on a first view, is found in its application to disappoint the expectation of the practitioner. The medical attendant would in many cases find it exceedingly difficult to fix the extremity of his catheter precisely upon the most projecting part of the sacrum; and in others, impossible to keep it there until he could accurately ascertain the amount of space occupied by it. The extremity of the instrument is rounded and smooth, and would therefore be liable at every movement, however trifling, either of the patient or of the practitioner's hand, to be displaced.

An instrument of the same description, but made of wood, is Stein's Beckenmesser. See Stein's *Practische Anleitung zur Geburtshülfe*, PL. II. FIG. IV. It differs from the graduated probe of Aitken only in having a kind of slide upon it; which, when the blunt extremity is passed on to the projection of the sacrum, is moved into contact with the symphysis pubis. The instrument is then withdrawn and examined; and the distance between the promontory of the sacrum and the symphysis pubis is formed in inches and parts of inches.—Hull's *Observations*, etc., p. 372.

Similar in principle, but less simple in its construction, and less practical in its application, is the pelvimeter of M. Coutouly. This consists in a graduated rule, abutted at its extremity by a short staff, which is produced from it at, or nearly at, a right angle. Parallel to this abutment is another staff of similar form and length, which being attached to, is made to move upwards and downwards with the graduated part of the rule, and thus to become a measure of the scale marked upon it. M. Coutouly proposed to carry the abutted extremity of his instrument into contact with the promontory of the sacrum, and presumed that, by bringing the sliding and parallel shaft downwards and forwards into contact with the symphysis pubis interiorly, the graduated rule would precisely indicate the distance between the promontory of the sacrum and the symphysis of the pubes. The structure and mode of application of this instrument will be instantly understood upon looking at the drawing of it given at *a*, in PL III. In the dry pelvis, as represented in the plate, M. Coutouly's pelvimeter would seem calculated to answer its purpose very sufficiently. But, in actual prac-



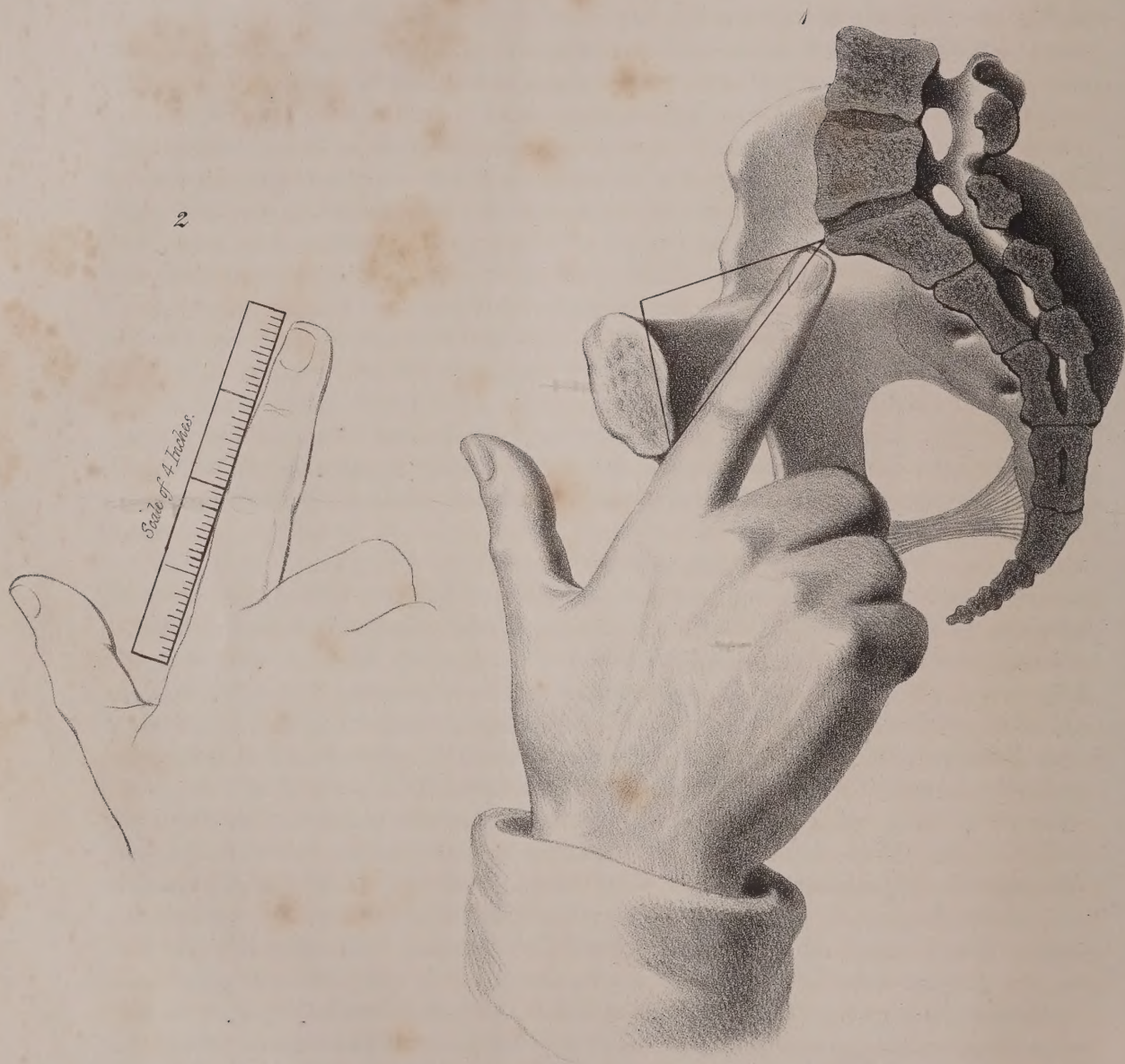
a. Coutouly's pelvimeter.
b. Boudelocque's callipers.

tice, it is not only in some degree liable to the objection made to the graduated catheter of Dr. Aitken, but also to that of perfect inaptitude for measuring a space so much occupied by soft structures as the cavity of the pelvis is in the living subject. Moreover, if the child's head be supposed in any degree to have engaged in the pelvic cavity, it is obvious that this instrument must become less useful or applicable in directly the same proportion. During labour, therefore, it can answer but little purpose; whilst in young subjects, in the absence of labour, and pregnant for the first time, it would seem scarcely possible to use it at all.

Another instrument proposed for ascertaining the dimensions of the conjugate diameter of the pelvis, is the callipers of M. Baudelocque. SEE PL. III. FIG. *b*. This instrument is applied to the pelvis externally. One extremity of its curved shanks is applied to the angle of the spine at the junction of the lowest lumbar vertebra with the base of the sacrum, and the other to the mons veneris. The intermediate distance thus obtained between the lenticular extremities of the instrument, would give the dimensions of the conjugate diameter, together with the thickness of the symphysis pubis and that of the sacrum at its base, so far as the point of the spinous process of the lowest lumbar vertebra, as also the space occupied by the cellular structure and integuments covering both parts. Deducting then from the whole intermediate distance between the knobs of the instrument a measure equal to what may be presumed to be occupied by the bones, cellular tissues, and the integuments of the pelvis, both before and behind, there would, presumably, be left the actual measure of the conjugate diameter. M. Baudelocque, who first proposed the application of the callipers for measuring the conjugate diameter of the brim, makes an allowance of three inches for the space occupied by the parietes of the pelvis as just stated, in cases of women of spare habits, and a line or two more for such as are more than usually lusty. "According to the data thus given," observes M. Baudelocque, *System of Midwifery*, translated by Heath, vol. i. p. 93, "the knowledge of this diameter is easily obtained. It is four inches when the external thickness of the pelvis measures seven; but three, when the latter only measures six, and but two when it does not exceed five, &c. I suppose the woman to be thin as most of those are who have been rickety." M. Baudelocque states that these results were so uniform that he never found the difference of a line in about thirty-five examples of pelves distorted in all manners of ways and in all possible degrees, which were made by him the subjects of examination and admeasurement. Such, indeed, is the confident report of M. Baudelocque. In the practice, however, of other obstetricians, its too credulous adoption has been followed by lamentable consequences. Amongst the cases most painfully illustrative of this statement, which at present occur to the recollection of the author, is one published in Leroux' *Journal de Médecine*, vol. xxxvii. p. 273. The subject of it was a patient in the lying-in ward of the civil hospital at Strasburg. She was brief in stature, distorted in her person, and thirty-nine

years of age. She was taken in labour on the 30th of January, 1815. Dr. Jean Fred. Lobstein was obstetric physician to the institution at the time. M. Baudelocque's callipers were had recourse to in order to ascertain the dimensions of the conjugate diameter of the brim of her pelvis. Finding the lenticular extremities of the instrument when applied respectively to the mons veneris and the sacro-vertebral angle at the distance from each other of six inches and a half, and making a deduction of three inches for the intermediate structures, M. Lobstein concluded upon a conjugate diameter of at least three inches and a quarter. He was confirmed in this conclusion, upon finding that, in passing up his fingers, he could not readily reach the promontory of the sacrum. After the patient had been struggling with the severity of her labour for twenty-four hours, M. Lobstein determined to have recourse to the use of the forceps, the head of the child not having yet engaged in the superior aperture of the pelvis. The instrument was accordingly had recourse to, but was locked with some difficulty, on account of the remoteness of the head to the inferior aperture. Upon traction being applied, the operator reports that the instrument slipped four times. Two hours were spent in these fruitless attempts. M. Lobstein then determined to bring the child away by turning. In passing up his hand for that purpose, HE DISCOVERED THAT HE HAD BEEN MISTAKEN in his estimate of the antero-posterior diameter. Foiled in his object, he resolved to effect the delivery by the crotchets tranchans; which were accordingly made use of some hours afterwards. The child of course was still-born, and the mother, we are informed, died in two hours after her delivery. The actual length of the conjugate diameter, as was subsequently proved on dissection, was two inches and a half. *Journal de Médecine, etc. par Leroux, vol. xxxvi. p. 170.*

Could we, indeed, in all cases, depend upon the principle on which M. Baudelocque has founded his admeasurements, his instrument would possess a certain amount of value. But the truth is, that the thickness of the bones of the pelvis at its brim, both anteriorly and behind, is subject to much greater variation than the statements of that gentleman, though apparently warranted by his facts, might lead us to suppose. The author made the following admeasurements in the presence, and with the assistance of his friend Mr. Robert Smith Owen, of Cirencester, a student in the Medical School of the University. He first measured the thickness of the base of the sacrum, carrying the point of his measuring instrument over the body of the superior false vertebra, to the level of a line or plane taken from the terminating point of the spinous process of the lowest lumbar vertebra, to that of the corresponding spinous ridge of the upper part of the sacrum. In seventeen pelves, well formed and distorted, taken indifferently, the thickness of the base of the sacrum from the edge of the promontory to the spinous ridge just described, without the addition of cellular structure or integument, was found to measure as follows:—In one it measured 3 inches; in another $2\frac{7}{8}$; in three $2\frac{5}{8}$; in one $2\frac{13}{16}$; in three $2\frac{3}{4}$; in three $2\frac{3}{8}$; in three $2\frac{1}{2}$; in one



$2\frac{1}{4}$; and in one only 2 inches; making between the extremes the difference of an entire inch. Again, of twelve pelves, the thickness of the symphysis pubis, without the integuments, was as follows: in one it was $\frac{7}{8}$ of an inch; in three $\frac{5}{8}$, and in eight half an inch.

It is not pretended that the length of any other diameters of the pelvis than the conjugate, whether of brim or outlet, can be ascertained by means of M. Baudelocque's callipers, nor has it been proposed by their use to discover the fact that a pelvis may be much more capacious on one side than on the other; a fact, nevertheless, perfectly well known to practical men, and one at the same time of great practical importance.

The late estimable Dr. John Sims had a patient whose pelvis was of this construction. He attended her in all her confinements. Her labours were difficult and protracted. Some of her children were born alive; whilst several others were unavoidably lost by the operation of cephalotomy. The Doctor observed that in all the latter cases, and only in them, the fœtal heads presented on the smaller side of the pelvis; and on two occasions he communicated his anticipations to the husband some hours before he felt himself authorized to have recourse to the ultimate expedient of his art. Dr. Sims considered the long forceps of Smellie an exceedingly dangerous instrument; nor was he able in any of the above cases to change the situation of the child's head from the smaller to the more capacious side of the pelvis, either by his hand or by his vectis, in the use of both of which he was remarkably expert.

In this country artificial pelvimeters have been very seldom used, and, perhaps, never exclusively depended upon; whilst, indeed, there is not one diameter, nor any portion of the cavity of the pelvis, which cannot be much more accurately ascertained by the natural pelvimeter, the practitioner's hand, than by any artificial means whatever. The length of the conjugate diameter may, at all events, be most accurately determined in this way. SEE PL. IV. FIG. I, II. The patient being placed on her left side, the medical attendant's fore-finger is to be carried up to the promontory of the sacrum. Whilst the point is made to rest on the sacral projection, some inferior portion of it will cross the arch of the pubis, the apex of which it may be made more or less distinctly to feel. This part of the finger should be accurately marked with the nail of the index finger of the practitioner's other hand. The intermediate distance between the part of the finger so indented and its point resting on the promontory of the sacrum, will of course be the measure of a line drawn from the promontory of the sacrum to the apex of the arch, the thickness of the symphysis pubis inclusive. Making an allowance for this thickness, and for the greater length of the line thus obtained, by reason of its greater inclination, than of the conjugate diameter, the length of the latter line, the conjugate diameter of the brim of the pelvis is determined with considerable accuracy. Should the practitioner's index finger prove too short to reach the promontory of the sacrum, presuming on its being of the ordinary length, and on its being passed up in a proper direction, it would then be a matter of

generally safe inference that the pelvis was of sufficient capacity in the direction of the conjugate diameter.

Inasmuch, however, as a greater degree of precision might be desirable in some doubtful cases, it would be quite easy for the medical attendant to obtain it by carrying up his index and long finger together, so that the latter might be placed upon the promontory of the sacrum. He would then have to indent the nearer part of his index finger as in the former case. The distance between the part so indented of the index and the point of the long finger resting upon the sacrum would give the length of the conjugate diameter, together with the allowance of half an inch for the greater length of the line actually measured, and the thickness of the symphysis pubis. The distance so obtained would be easily determined by applying a common rule to it.

But the conjugate diameter may by possibility be of sufficient length, and yet the space on either side of it might be too contracted to admit the head of a well-grown child to enter into the pelvic cavity. The fact of this malformation may also be ascertained with tolerable accuracy by the hand. For this purpose the whole of the hand is to be introduced into the vagina and carried up edgewise, *i. e.* with the index finger in front, and the little and ring fingers behind, to the lateral portions of the pelvic cavity; so that the points of the fingers shall rather more than clear the brim. Should there be found sufficient room on either side of the diametrical line for the hand so introduced to maintain the parallelism of its fingers, *i. e.* to lie there without being forced to ride over each other, then it would be matter of conclusion that with sufficient space in the middle, added to the ordinary space on the other side, there would be found ample room for the descent of the child's head into the general cavity. The practitioner then would have to pass his hand along the other side of the pelvis, and subject its dimensions to the same test. If, indeed, the hand was carried up along and nearly in contact with the lateral parietes of the pelvis, and room was found there even for THREE FINGERS to lie together in moderate parallelism, the conjugate diameter being at the same time of sufficient length, it would be competent for the medical attendant as a general rule, to infer favourably of the dimensions of such a pelvis.

DIMENSIONS OF THE OUTLET OF THE PELVIS.—The diameters of the outlet of the pelvis, in common with those of the brim, admit of easy admeasurement without a pelvimeter. The mobility of the coccyx indicates the precise locality of its junction with the apex of the sacrum, from which part to the pubic arch there could be no difficulty in ascertaining the distance with great precision. With respect to the transverse diameter of the outlet, it is, perhaps, not quite so easily ascertained as the other, in consequence of the thickish cushion of cellular substance and integuments by which its extremities are covered. In most cases, however, the tuberosities of the ischia may be sufficiently accurately felt to enable the practitioner to form his judgment of the localities and intermediate distance of the points of insertion of the ischiatic ligaments; which points the reader is now aware are the extreme boundaries of the transverse diameter of the inferior

aperture. But this diameter may be accurately enough ascertained for practical purposes by merely introducing the hand into the pelvis, and placing the thickest and broadest part of it transversely across the vulva so as to occupy the line of the short diameter. The breadth of an average-sized hand across the metacarpal joints is very nearly three inches and a half. A pelvis, therefore, sufficiently large to permit the hand to occupy easily, or even without sustaining any serious pressure from the lateral boundaries of the outlet, the position just described, would be sufficiently ample for the safe passage through it of a well-grown foetal head at the full period of gestation.

OF EXCESSIVE CAPACITY OF THE PELVIS.—The inconveniences likely to be sustained from excessive capacity of the pelvis, are morbid displacements of the organs contained within it; which occur principally during gestation and parturition, or as consequences of labours being too suddenly consummated.

1. When the pelvis is too large, the gravid uterus, during the earlier months of gestation, remains within its cavity a longer time than it otherwise would do, before, in the progress of its development, it becomes competent to ascend into the cavity of the abdomen. But being increasingly larger and heavier than in the absence of pregnancy, it naturally sinks towards the flooring of the cavity, where it is apt to produce irritation both of the bladder and of the rectum, which are there situated.

2. Between the tenth and fifteenth week of gestation, a pelvis of the conformation here supposed might furnish opportunity to the uterus to become the subject of the malposition called *RETROVERSION*; and excessive capacity of the pelvis has indeed been mentioned by practical writers as a predisponent cause of the malposition in question.

3. In some cases the pelvis has been so large, as to allow at an advanced period of gestation the uterus with its contents, in the absence of labour, to enter deeply into its cavity; so as to occasion exquisite distress to the patient, much interference with the functions of the rectum and the bladder, great and painful swellings of the external genitals, and severe constitutional symptoms, as results of these local inconveniences.

4. But not only has the gravid uterus descended deeply into the interior of the pelvis when its cavity has thus been of excessive magnitude; but the uterus has also, at an advanced period of gestation, and in the absence of labour, MADE ITS ENTIRE ESCAPE OUT OF IT, so as to have presented itself bodily between the thighs of the patient. Several cases of this description will be referred to in the sequel of the present work.

5. In some other cases of unusually large pelves, the uterus has descended deeply into the cavity of the pelvis, its orifice dilating rapidly, and the parts at the outlet becoming also suddenly relaxed and developed, the child has escaped from the parturient passage so quickly, as scarcely to have excited the consciousness of the mother. Cases of poor women being delivered in hackney-coaches, on their way to the Lying-in-Hospitals of this metropolis, are not

unfrequent. One case occurs to the recollection of the author, of a child being dropped on the footpath of Westminster-bridge, by a poor woman who was hurrying on foot to the Westminster Lying-in-Hospital. She was taken up by a drayman, who carried her and her child, the placenta unseparated, to the hospital. No bad consequence succeeded to the accident. In another case, a child of ample size escaped suddenly into a chamber utensil, upon which the mother had just seated herself to respond to what she considered a simple call of nature. In rising quickly, and alarmed at an incident which she so little expected, the umbilical cord was put violently upon the stretch, which by effecting a partial separation of the placenta became the cause of a profuse hæmorrhage. The medical attendant was in waiting in an adjoining room; and, by instantly withdrawing the placenta, prevented further mischief. When the placenta has been firmly adherent, the uterus not immediately contracting, the accident now described HAS OCCASIONED TOTAL INVERSION OF THAT ORGAN.

6. Dr. Haighton, in his excellent lectures on midwifery, used to quote a case of sudden and unexpected delivery, which the reader will consider one of peculiar interest. An unmarried woman, at the full period of gestation, was taken with abdominal pains, and became the subject of a sudden and pressing call to empty the contents of the rectum. Living in the country, she hurried to a proper erection in the garden to relieve herself. The pit or cesspool of the vault was large and deep. On being seated over it, a violent parturient effort of the uterus took place, for she was in labour, without probably being fully aware of it; and the child was suddenly expelled, and as soon irretrievably lost; as it was instantly swallowed up by the filth of the place below. Circumstances immediately transpired which led to the arrest of the unhappy young woman; and she was sent to York Castle to take her trial at the great assizes for the county. The medical practitioner of the family in which she was servant, was subpoenaed as a witness for the prosecution; and that gentleman, repeating the evidence which he had given on the inquest, swore that it was perfectly possible for women in labour to distinguish, and that, in fact, they always did know the difference, between the bearing down pains of parturition and the calls of nature, however pressing or painful, to empty the contents of the rectum. On this most incompetent, and criminally ignorant evidence, the unfortunate prisoner was found guilty of the crime of infanticide, and publicly executed at York within three days after her condemnation.

OF DEFICIENT CAPACITY OF THE PELVIS.—A pelvis may be too small, absolutely or relatively. The pelvis of a very small woman may be too small for the purposes of parturition under any circumstances; or it may be too small only in the event of its subject becoming connected by marriage to a gigantic husband. A pelvis may be too small, and yet its several parts may be duly proportional among themselves. We occasionally meet with examples of defective capacity of the pelvis when other parts of the skeleton are of standard magnitude; which may arise from original conformation, or be the consequence

of a diseased condition of the osseous system in early life. In the latter case the pelvis would not only be small, but probably also in some degree deformed. Any pelvis of dimensions inferior to those of a standard pelvis should be called a small pelvis. Pelves of somewhat less dimensions than those of a standard pelvis may, however, occasionally admit of children being born alive at the full period of gestation. For example, a living child of average size at that period might be born living, provided the conjugate diameter of the brim of the mother's pelvis was three inches and three quarters, and the head presented in the best possible position. But if it amounted to no more than three inches, A WELL-GROWN CHILD AT THE FULL PERIOD could not be expected to pass without an operation to reduce the bulk of its head. Such a pelvis might however be large enough to admit of the birth of a living child at a period of gestation something short of the full period; but yet sufficiently advanced to warrant the probability of its being able to sustain an independent life subsequently to its birth. In cases of this description, the operation for the induction of premature labour is especially indicated. That operation, however, so creditable to the art of midwifery in our times, requires, in order to its being performed in proper circumstances, a perfect knowledge, on the part of the medical attendant, of the dimensions of his patient's pelvis. It may, indeed, be observed that pelves of only very limited deficiency of capacity, admit, at the full period of gestation, of the performance of operations compatible with the preservation of the child's life. This subject will of course be treated of more at large under the head of instrumental midwifery. For an example of one of the smallest pelves, without any considerable distortion, that are recorded, see Hull's *Observations on Simmons' Detection*. Manchester, 1794. p. 180. "Of the latter pelvis, which belonged to a dwarf only three feet high, the antero-posterior diameter of the superior aperture measured two inches, the transverse four and a quarter: the right and left oblique diameters four inches each. The distance from the extremity of the right and left os pubis to the sacro-iliac symphysis measures three inches and a half. The antero-posterior diameter of the inferior aperture measures three inches and three quarters; the transverse three and a quarter. The os sacrum is three inches and a quarter broad, and two inches and a half high. The angle formed by the rami of the ossa pubis is sixty-seven degrees and a half."

OF THE USES OF THE PELVIS.—Little need be said on this part of our subject. The pelvis is the medium of connexion between the trunk of the body and the lower extremities, and furnishes points of insertion and leverage to all the muscles which act intermediately between these parts. It affords passage and security to the blood-vessels, lymphatics, and nerves, which supply the lower extremities; forms the cavity in which are lodged the internal organs of generation and their appendages during the unimpregnated state of the uterus, together with the rectum and bladder; and furnishes surfaces of attachment to the external genitals, to numerous ligaments by which its different parts are connected together, to the glutei and other important muscles, and in short to

all the varieties of organs or other structures which nature has deemed essential to the construction and finishing of this part of the human body.

OF DISEASED CONFORMATIONS OF THE PELVIS.—The principal causes of distortions of the pelvis are injuries, such as fractures; and diseased actions, such as inflammations, exostosis, caries and morbid softness of its bones.

From the peculiar position of the pelvis in the human body it might be justly inferred, that it could rarely be exposed to the liability of being fractured. In point of fact few such examples are recorded. A case of this description, however, once occurred in the author's practice. The wife of a tradesman, who resided in a narrow street in the neighbourhood of Covent-garden, accidentally fell from a window two flights of stairs high into the street. During her fall she struck against a street post; her person being seen at the moment of falling in the attitude nearly of pronation. It was soon discovered that she had sustained some severe bruises on different parts of her body; but the injury of which she most complained occupied the left pubic region. The integuments of the part, in common with the labium pudendi of the same side, became rapidly turgid with blood, so as probably in some degree to divert the attention of the medical attendant consulted at the time, from the deeper injury which had been inflicted on the horizontal portion or body of the left os pubis. That bone had indeed been completely fractured. The case was treated by bleeding and the application of leeches and subsequently of poultices to the part. The patient was confined to her bed for many weeks, and was never afterwards perfectly free from lameness. After the lapse of some months she found herself pregnant. During the latter months of her gestation, she was the subject of constant and distressing pains of the part which had sustained the injury. She was attended in her confinement by the gentleman who had assisted her in her former labours, all of which had been easy and prosperous. That gentleman, however, soon discovered that circumstances had materially changed with her, and that on this occasion he had to anticipate a different result. He therefore requested the assistance of an experienced obstetric practitioner. The patient was eventually delivered by the operation of cephalotomy. On a subsequent occasion she was relieved by similar means. The author attended her for the first time, in her third confinement subsequently to her accident, and after she had been for forty hours in severe labour. The child's head had then been opened, and many fruitless attempts had been made to bring it down with THE OLD UNGUARDED CROTCHET. A more convenient purchase was obtained by the CRANIOTOMY FORCEPS, an instrument which was used on that occasion for the first time; and the business was completed without further difficulty. Whilst the hand was employed in the removal of the placenta, which was detained in the uterus for nearly two hours after the expulsion of the child, an opportunity was afforded of examining with accuracy the state of the fractured pelvis. The left os pubis had been fractured within a short distance laterally of its crest. Both fractured ends of the bone had been driven inwards, towards the interior of the cavity; but the lateral end,

i. e. the end next the ilium, considerably further in that direction than the other. The superior aperture had suffered great diminution of its capacity, especially on the left of the median line. Reporting from the impression which he received during the investigation then made, the author believes that the diagram in PL. VI. FIG. I. represents pretty accurately the form and capacity of the brim of this patient's pelvis, as it had been left by the accident and its consequences.

The excessive distortion of the pelvis of Jane Foster, of Blackrod, on whom Mr. Barlow successfully performed the operation of gastrotomy, was the effect of fractures of both ossa innominata, occasioned by a loaded cart passing over her pelvis. *Medical Records and Researches*, p. 154.

Professor Sandifort, in his *Museum Anatomicum*, vol. ii. PL. XLV. FIG. V, VI, VII, has given very interesting engravings of pelves which had been distorted by fractures of the sacrum. In some cases the pieces are represented as having subsequently united at angles, very little short of right angles.

Dislocations of one or both of the thigh-bones have been quoted by obstetric pathologists, as causes of distortion of the pelvis. Dr. Hull, in his second letter to Mr. Simmons, p. 183, observes that, "the head of the os femoris, when not reduced, pressing necessarily on a different part of the pelvis, has been found to induce a very material change in the form of its apertures. This change is different, according to the situation occupied by the dislocated extremity. When the ossa femoris are dislocated upwards and backwards, by pressing upon the dorsum of each os ilium, they may shorten the transverse diameter of the superior aperture, and elongate the transverse diameter of the inferior aperture, by increasing the angle at which the rami of the ossa pubis recede from each other. When the femur is dislocated downwards, the pressure being made at the inferior part of the pelvis, the deformity is of the contrary kind, the lower part becoming contracted and the upper part enlarged. The dislocation of the ossa femorum may be expected to produce a greater effect in young subjects, as the bones of the pelvis will then yield more to the superincumbent pressure than in the old ones."

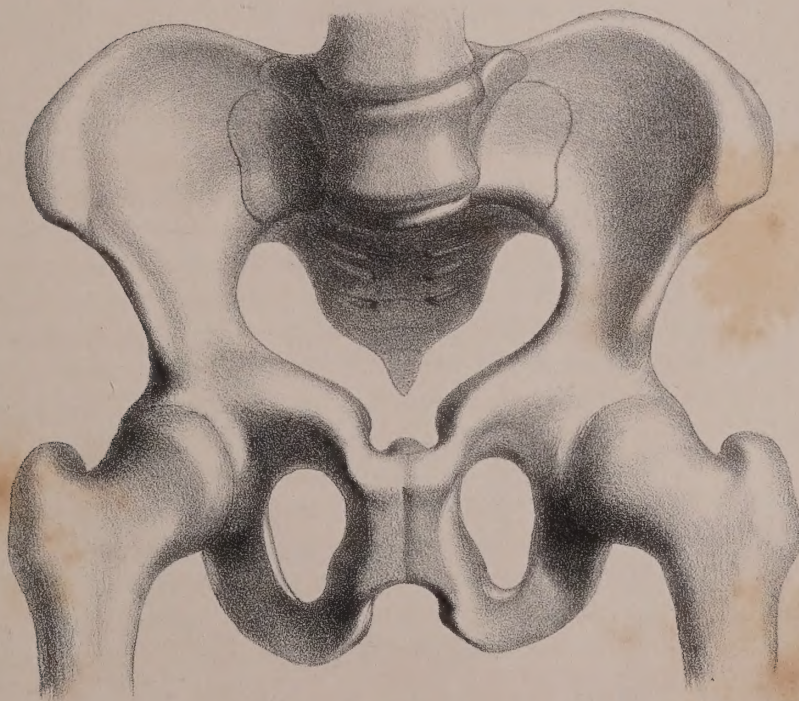
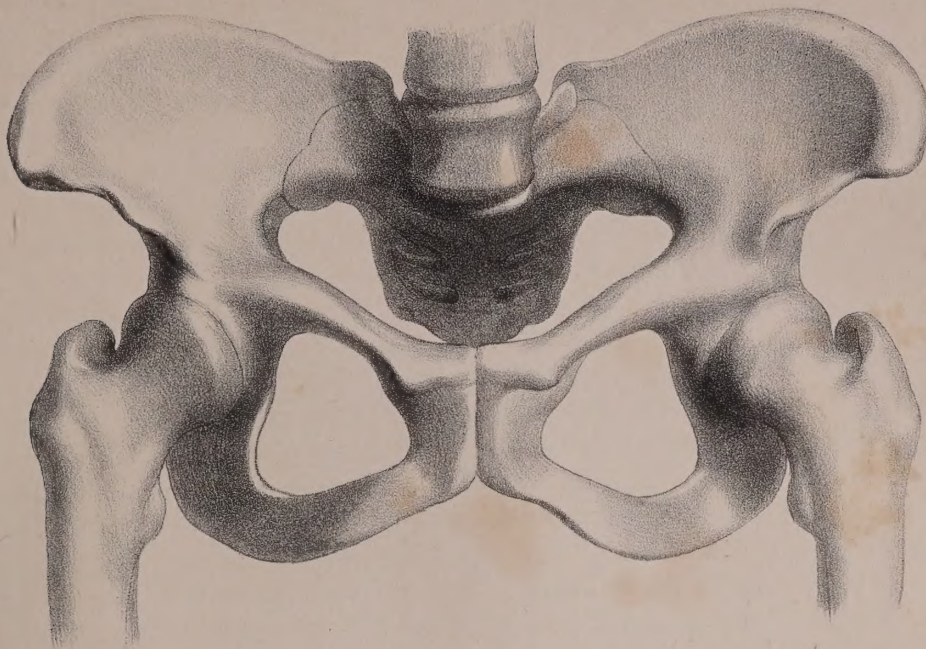
Another cause calculated to occasion a diminution of space within the pelvis is EXOSTOSIS, or a morbid growth of one or more of its constituent bones. When such growth is determined into the interior of the cavity, it is obvious that its dimensions must be affected in direct proportion to the length and general bulk of the projecting part. Sandifort, PL. XLV. FIG. III. But in cases of inflammation of bones, it not unfrequently happens that their forms are greatly vitiated, independent of any important addition to their bulk by exostosis. There is at present, in the Anatomical Museum of the University, a pelvis, of which the cavity is considerably diminished, and one side, more especially, distorted, without being accompanied by any adventitious growth of bone into its interior.

Destruction of a considerable portion of one or more of its constituent bones, by whatever disease or other cause effected, may be productive of contraction of the pelvic cavity. The devitalised portion of a bone being removed by absorp-

tion or abscess, the remaining living surfaces, in the event of the patient's recovery, will very generally approximate and unite. But this could not be expected to take place, without producing a diminution of capacity of the part proportional to the loss of substance sustained.

There are yet two other remarkable affections of bones, which are more productive of distortions of the pelvis than all other diseases of the osseous system put together: *viz.* the rickets of infancy and malacosteon of more advanced age. Distortions in both these cases appear to be in a great measure the effect of a certain diathesis in the habit, which occasions a softness of the bones. Bone is principally composed of animal gluten and phosphat of lime. If these enter into its composition, in their usual and proper proportions, the bone will be firm and strong. If the gluten be defective, the bone will become brittle. If, on the contrary, there be want of phosphat of lime in due quantity, the bone will become soft. If the whole of the skeleton be in this state, it will become subject to diverse changes of form from the action of pressure on it; and the pelvis being especially liable to pressure, from its peculiar relation to the lower extremities and to the superincumbent trunk, it seldom escapes the influence of this cause.

DISTORTION FROM RICKETS.—Deformity from rickets may be either partial or general: *i. e.* it may be of one part of the skeleton or of many; as it also may be of one part of the pelvis or of the whole of it. The pelvis of an adult subject, rendered deficient in capacity by the rickets of infancy, is most frequently defective in the dimensions of its brim from behind forwards; those from side to side not usually sustaining much diminution. Many pelves thus affected present on first view the character of a moderately good conformation; which, however, upon closer examination or accurate admeasurement, are found too small to admit of a passage through them of a well-grown child at the full period of gestation. In other cases, the capacity of the brim has been so seriously affected by rachitis, as not to admit a circle of an inch in diameter to be described within any part of its parietes. The ordinary variety of distortion of the superior aperture, when occasioned by this disease, consists in simple approximation of its anterior and posterior parietes. This approximation is generally greater in the middle than on either side, in consequence of the greater bearing of the superincumbent trunk of the body at that part, added to the already-existing projection of the sacral promontory. This rule, however, is not without exceptions, as may be inferred from an examination of the several sketches of distorted superior apertures of pelves, given in PL. VI. FIG. I, II, III, IV. It is an observation of Levret, that when a pelvis is confined at the brim, it is expanded at the outlet, and the contrary. This statement may be considered as generally true. But there are many exceptions to it: inasmuch as there are cases in which we observe great narrowness, both above and below. The contraction of the superior aperture may be readily accounted for, from the action of two concurring forces which are applied to it, *viz.* the weight of the superin-



cumbent body to the superior part of the sacrum, by which that part is necessarily propelled downwards and forwards; and the resistance made to that weight by the heads of the thigh-bones at the acetabular cavities, by which the anterior portions of the ossa innominata are borne upwards and inwards. It will be easily conceived how the action of contraction at the brim will generally tend to produce expansion of the outlet. When this does not take place, or when the opposite state of the parts is presented, we may presume that some counter-acting cause or causes must have been in operation; such as the daily exposure of the sacrum and of the inferior portions of the ossa innominata to pressure from hard beds, hard floors, perforated chairs, &c. during the presence of the rachitic disposition.

DISTORTION OF THE PELVIS FROM MOLLITIES OSSIUM.—A softened state of the bones, as we have already seen, is a condition of the osseous system, common both to rickets and to malacosteon. Some authors have, indeed, considered the rickets of infancy and childhood, and the malacosteon of adult age, as one and the same disease; and only differing in the accident of their occurring at different periods of life. There are, however, circumstances which would appear to tend to involve this theory in some doubt. It is well known, that the rachitic diathesis is in all cases the result of extreme feebleness or other depraved condition of the chylopoietic functions, induced by certain recognised causes to which the subjects of the malady are especially exposed during the first twelve or eighteen months of their existence: whereas there are reasons for believing that malacosteon has more frequently arisen from causes of an accidental nature, sometimes as results of severe labours, and in other cases as consequences of acute diseases affecting particular parts of the body, not essentially nor proximately depending on any particular states of the digestive organs. Moreover, malacosteon is both a painful and a fatal malady. But children, when the subjects of rickets, make no complaints of pain of their distorted limbs, and are seen to move about, and otherwise to exercise themselves, without exhibiting any signs of inconvenience; while it is probable that death is never exclusively the effect of the softened state of their bones. We may again infer, from the perfect constitutional recovery of the greater number of the subjects of rickets, as well as from the occasional opportunities we have of post-mortem examinations, that the bones which become distorted from this cause, are scarcely ever so much injured or changed as to their constituent materials, OR ALMOST PERFECTLY DESTROYED, as in some cases they are, by malacosteon. In the interesting case of JAMES STEPHENSON, as related by Mr. Henry Thomson, Surgeon to the London Hospital, we are informed, that he found the original bony part of the tibia, DURING THE LIFE OF THE SUBJECT, of about the consistence and thickness of the rind of cheese; whilst a dusky-red, or liver-coloured fleshy-looking substance, occupied the whole of its interior; “which was devoid of sensibility, and from which the osseous covering had been removed, without the least hæmorrhage.”

It presented the appearance of an unorganized mass, similar “to the coagulum which may be formed upon a stick or feather, by stirring fresh-drawn blood in a basin.” After death, all the cylindrical bones were found in a similar state; whilst, indeed, no part of the skeleton had escaped the extraordinary influence of the disease. *Medical Observations and Enquiries*, vol. v. p. 259. The changes in the osseous system of the celebrated Madame Soupiot, as communicated by Dr. Ambrose Hosty of the Faculty of Paris, in the *Transactions of the Royal Society of London*, vol. xlviii. part i. p. 30, is still more remarkable. “The operation,” THE POST-MORTEM EXAMINATION, “was begun on the left tibia. It was wonderfully altered; more or less soft in all its length. In some points it was entirely dissolved, and its sides not thicker than the gristle of the ear. The spongy substance of its extremities supple, yielding to the least pressure. The reticular matter was quite dissolved. The peroné was entirely dissolved in the middle, and only slight marks of its extremities remained. Instead of marrow, we found in all the bones a red thick matter, like coagulated blood mixed with grease.”—“The femur was rather a fleshy body than a bone. Its cavity was filled with a reddish suet instead of marrow, which, accumulated in different points, bulged out the fleshy sides!”

The following description, as far as the author knows, applies only to the latter disease. “I then also observed, that the napkins upon which she spit grew black in the washing, and stained, as if from mercurial ointment; though I could not suspect, as I could not learn, that she had ever used mercury. In a month after, I observed the same thing on all the linen that touched her skin. Her linen stained all the washing, like linen impregnated with mercurial ointment. These spots appeared on the linen like a mixture of cretaceous matter and grease.” Case of Madame Soupiot.

Mollities ossium, it may be further observed, is, in many cases, an exclusive affection of the bones of the pelvis and of the inferior portions of the spinal column. A lady in the neighbourhood of the author's residence had been the subject of severe pains of the back and loins for some months antecedently to her last pregnancy. These pains, as is usual in such cases, were referred to and treated for a rheumatic affection of the muscles of her loins. During her gestation the disorder became greatly aggravated, and she became totally helpless and bed-ridden. Still no suspicion of the actual nature of the complaint was entertained. When the author was first consulted she had been in severe labour for many hours; but then her labour pains were totally suspended; and there were present the usual symptoms of rupture of the uterus. The pelvis was found considerably contracted. There was every probability that the child had long ceased to live. It was therefore determined to effect the delivery by cephalotomy. The patient died in the course of a few hours afterwards. Upon examination after death, the pelvis presented the characteristic deformity of *malacosteon*; whilst, also, several of the lumbar vertebræ, which were imbedded in grume and pus, from ulceration and destruction of the imme-

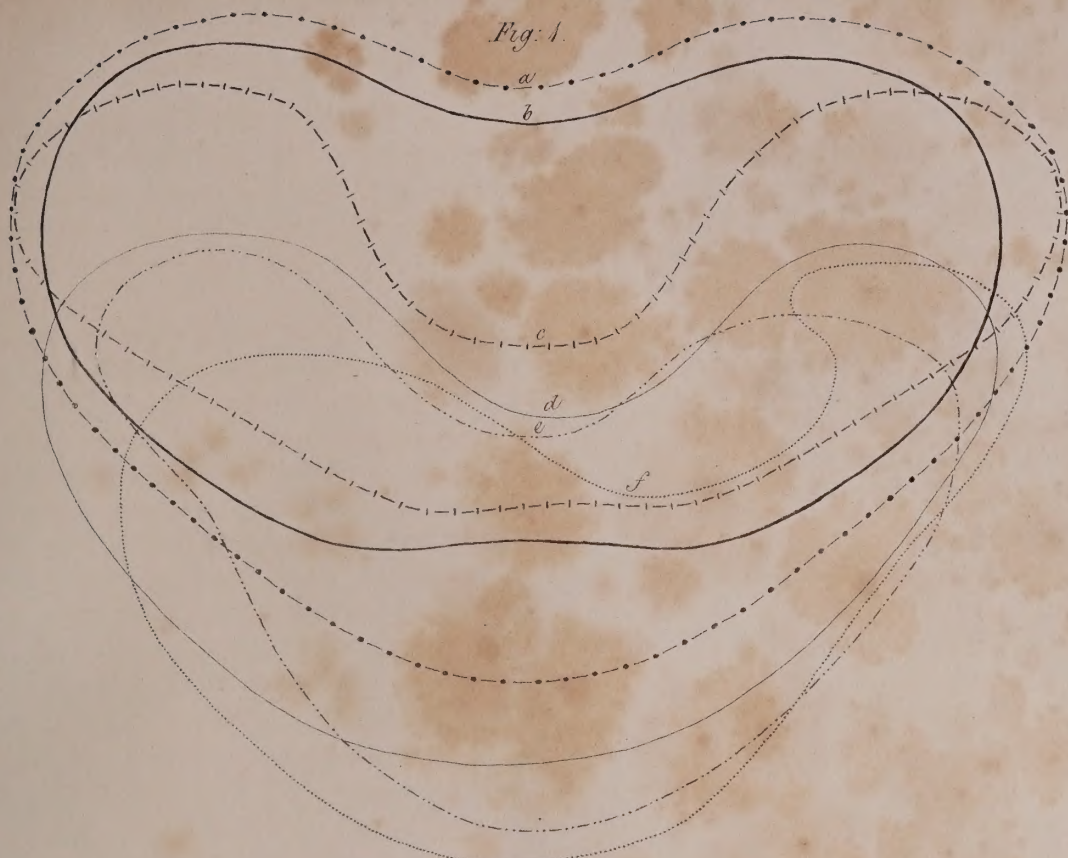
diately contiguous soft parts, were in a state of caries. No other parts of the skeleton of this subject than the pelvis had suffered distortion, nor could any of her cylindrical bones be discovered to have been in any degree affected by the disease. The author has to regret, that, in consequence of an act of great carelessness, if not of base ingratitude, on the part of the gentleman who assisted him in the dissection, he was deprived of the opportunity of taking the dimensions of this pelvis.

The characteristic deformities of the pelvis, respectively produced by the rickets of infancy and the malacosteon of adult age, are well illustrated by Dr. Hull, in his second letter to Mr. Simmons, p. 193. "The pelves," observes that ingenious author, "of which I have given figures, are excellent examples of the diversity of deformity, induced in the infantile period of life by rachitis, and in the adult state by malacosteon. In the distortion occasioned by the former disease, the symphysis of the pubis and the os sacrum are approximated; but the acetabula remain as distant from each other as in the natural state; or even become more distant, in consequence of the bones of the pubes becoming straighter. In the latter disease, the acetabula are the parts of the pelvis which principally yield, and by their approach to each other and to the sacrum, give to the superior aperture the form of a triangle, with its three sides convex inwardly, the bodies of the ossa pubis being rendered more or less nearly parallel to each other. These, I think, are very curious facts, and are not altogether explicable, from the circumstance of children affected with rickets being less frequently upon their legs than adults affected with softness of the bones: although there can be no doubt but this cause does contribute very materially to the change induced in the form of the pelvis. To give a complete and satisfactory solution of these phenomena, we must advert to the state of the bones composing the pelvis in the first years of life, when the mischievous effects of rachitis are produced, although we do not become sensible of some of them, as occurring in females, till the period of their first parturition. In infancy the ossa innominata consist each of three distinct bones, named ossa ilium, ischium, and pubis, all of which contribute to the formation of the acetabula. And as in general the points where ossification begins, more particularly in those bones which are not of a cylindrical form, are near the centre of each, the extremities are, consequently, the last parts that are completely converted into bone. Hence it appears that the extremities of each of the three bones, mentioned above as constituting the acetabula, are, during infancy, in a cartilaginous state. And the cartilages destined to supply the place of bone pro tempore, either not being at all affected, or at least not proportionally with the true bones, by the disease named rachitis, the cartilages of which the acetabula are formed, remain sufficiently strong to sustain the pressure made upon them by the head of the ossa femoris; or if they yield at all, their elasticity appears sufficient to restore them to their proper state on the removal of that pressure. So far, indeed, are they from being forced nearer each other, that they are

sometimes, as was before noticed, actually rendered more distant than in the natural state of the pelvis, being approximated to the base of the os sacrum in a greater degree at their symphysis than at their acetabular extremities; in which case the bodies of these bones, instead of a more curved, describe nearly a straight line. See *Medic. Obs. and Enquiries*, vol. iv. PL. II. and III. Whilst on the other hand, the base of the os sacrum and the last lumbar vertebra, from being sooner converted into bone, from being naturally of a spongy texture, and from being greatly affected by rickets, lose their firmness, and yield, in a very considerable degree, to the superincumbent weight of the body."

The author is desirous of giving the fullest credit, as well to the general accuracy as to the ingenuity of the above explanation. He is nevertheless of opinion that there should be taken into account the fact, that we have very rarely an opportunity of examining a rickety pelvis at the worst period, or even during the actual presence, of the disease. It has been already stated, that mollities ossium is, without exception, a fatal malady. The pelvis is therefore found, at the patient's death, the subject of the disease in actual existence, and in its worst forms of aggravation. Whereas in rickets, which in a great majority of cases is not a fatal disease, the distorted parts of the skeleton are not unfrequently observed to become less and less distorted during the subsequent growth and yearly improving health of the subject, so as eventually to recover a very fair share of symmetry. Mr. A. C. F., when a child of two years and a half old, was the subject of so much distortion of his lower extremities, that, in his attempts to walk, he rested his entire weight on his internal ancles, and on the corresponding sides, instead of, as other people do, on the soles of his feet. But the recovery from this state of extreme distortion has since been so complete, that the same individual is now one of the sprightliest and best-formed gentlemen in the county where he resides.

Is it not possible, that when the lower extremities of the party here alluded to were so extremely distorted as has been represented; indeed is it not probable, that his pelvis must also in a great degree have been the subject of similar distortion? Nor can it be proved, that, when the distortion was greatest, it did not, to a certain extent, assume the triangularity of figure of its brim, presumed by the above theory to belong exclusively to pelves distorted by mollities ossium. The author is by no means certain that this effect may not be partially produced in the greater number of distortions occasioned by rickets, during the actual presence of the diseased condition of the bones; for although the acetabular cartilages might be perfectly free from disease, and be therefore competent to exert the resistance required by the above theory, it cannot be doubted, that the osseous portions of the pelvis immediately surrounding them, would morbidly yield to the pressure to which they are exposed, so as to cause a tendency of the sacral promontory from above, and the antero-lateral portions of the brim of the pelvis from below, to be determined towards the interior of its cavity. In the anatomical museum of the University, there are three



Sketches of brims of Pelves distorted by Rickets.



skeletons of children, of the ages of six months, two years, and ten years, respectively, who died when subjects of rickets. In all of them the brims of their pelves are subjects of distortion, from lateral or antero-lateral pressure; and in one, that of the child of two years, there is to be observed a sufficient triangularity of figure of its brim to warrant some hesitation as to the correctness of the doctrine which ascribes exclusively to the action of the acetabular cartilages, the peculiar variety of distortion which we most frequently meet with in the pelves of adults, who in their infancy had been the subjects of rickets. In further illustration of the insufficiency of the same doctrine, as an exclusive principle, the author, through the kindness of Mr. Stanley, is permitted to refer to the pelvis of a girl of ten years of age, who died at St. Bartholomew's Hospital, when actually the subject of rickets. The distorted pelvis is still in the museum of the hospital, and very intelligibly tells its own story. The brim is remarkable for the triangular distortion usually characteristic of *mollities ossium*; whilst the rami of the ossa ischiorum and pubium have been forced to approximate so nearly to each other, as scarcely to have left room for the point of a finger to be insinuated between them.

The author trusts that the distorted pelves in PL. V. FIG. I and II, and the sketches in PL. VI, will be such as to indicate pretty distinctly the important general fact referred to, and so ingeniously maintained by Dr. Hull, of the ordinary difference between the distortions respectively produced by rickets and *mollities ossium*.

The influence of the several varieties as well as degrees of distortions of the pelvis on the process of parturition, will be treated of under the more immediately obstetric department of the present work.

CHAPTER III.

OF THE STRUCTURES AND DISEASES OF THE EXTERNAL GENITALS.

THE external genitals of the female are the mons veneris, the labia pudendi majora, the clitoris, with its prepuce produced to form the labia minora or nymphæ, the external orifice of the urethra, the frænum, the hymen and carunculæ myrtiformes.

Names are also given to certain surfaces and spaces which result from the distribution of some of the above structures; such as the anterior and posterior commissure, the vestibulum, the fourchette, and the fossa navicularis.

OF THE MONS VENERIS; MONTICULUS VENERIS; FR. PENIL; EMINENCE SUS-PUBIENNE.—These designations have been given to the prominent part of the human female, which is situated between each groin laterally, and the hypogastrium and sexual fissure superiorly and inferiorly. The extent and fulness of this prominence vary with the age, size, and form of pelvis, of different subjects. It principally consists of common integument, which at this part is exceedingly thick and strong; and of dense cellular tissue, which is usually charged with an abundant quantity of fat. Added to these, are numerous glands for the secretion of the down and hair with which at successive periods of life these surfaces are covered. The latter form of the pilous covering is a distinction which is acquired at the age of puberty; its colour, strength, and quantity, being subject to great variety in different individuals. The diseases of the mons veneris are not numerous.

OF THE MORBUS PEDICULOSUS OF THE MONS VENERIS.—The pubes are the seat of a teasing pruritus, from the presence and operations of a pedicular variety of insects, which fasten upon and insinuate themselves into the cuticular structure of the part. It is said that the worst forms of the disease are common to the pubes, the axillæ, and the eyebrows. Portal, *Anatomie Medicale*, tom. iv. The proper treatment consists in an application to the part affected of an ointment, made with red or white precipitate and common cerate or pomatum, in the proportion of a drachm of the former to an ounce of the latter, alternated with daily ablutions with soap and warm water.

There is no truth in the supposition, a notion however which rather generally prevails, that the morbus pediculosus can only be acquired by sexual intercourse, or personal approximation in any other way, to another individual previously affected with it.

DIMINUTION IN THE QUANTITY OF THE HAIRY COVERING OF THIS PART, can scarcely be mentioned as one of its diseases: whilst, however, it may not be improperly noticed as a fact, which occurs in a very remarkable degree, in many cases, at and after the period of cessation of the menses. This fact is well known to anatomists and nurses of hospitals.

In some rare instances the colour of the hair has been from infancy white or grey, similar to that of the hair of the head in old age. Authors have connected this peculiarity in the female with natural and incurable sterility. It may, however, be observed, that such an inference can scarcely be supposed to be founded on a sufficient number of observations. Ephimerides Germ. dec. ii. an. vi. obs. 20. 1688.

It has been said that the Turks, in common with some other nations, accustom themselves to the use of depilatories to remove the hair, which nature has intended for a covering and protection, as well as for a means of concealment of the pudendum. These depilatories consist, probably, of powdered quick-lime, orpiment, or nitrous acid, combined with the various ingredients which usually go into the composition of pomades.

A case of severe pruritus of the genitals occurred in the author's practice about two years ago, in the instance of a young married lady, who was the mother of one child. She was not the subject of ascarides, nor of any other intestinal worms. The uterus was healthy in structure and functions. There was no eruptive affection either of the vulva or vagina. The contents of the bladder were voided without pain or difficulty. It became a matter of suspicion, that the mons veneris might be the seat of a pedicular affection. This was not the case. But the opportunity of examination conceded for ascertaining that point, led to the discovery that the entire pudendum, together with its neighbouring surfaces even to distant portions of the common integument, the posterior perinæum, the whole of the hypogastrium, and even parts of the abdomen intermediate between the umbilicus and scrobiculus cordis inclusive, were covered with a most extraordinary quantity of hair. The subject of this history having been more or less harassed with the pruritus, which she was now suffering, since the commencement of her fourteenth year, when she menstruated for the first time; it did not seem quite foreign to the probabilities of the case, to conjecture that this superabundance of the hairy covering of the pubes might, by promoting the evolution and retention of an undue phlogosis in the uterine system, act as an indirect cause of the distressing symptom. This presumption was, at all events, acted upon, and the patient was furnished with an unguent consisting of two parts of quick-lime, and six of strongly-scented pomatum, accompanied with directions to apply it by friction to the mons veneris and contiguous integumental surfaces twice a day. These operations were more than once obliged to be suspended in consequence of the irritation, amounting to a slight fretting and inflammation of the cutis, which they occasioned. In about two months, a very large proportion of the hairy covering was removed; and as the

process of depilation advanced, the author had the pleasure of observing, that the patient experienced a sensible abatement of her pruritus, whilst about the middle of the third month, subsequently to the commencement of the practice, the symptom had entirely ceased. To leave no room for misapprehension or miscalculation of effects, the author deems it his duty to add that, inasmuch as this treatment was adopted as a matter of experiment, to which he attached no very eager expectation of success from it, it was throughout accompanied by the exhibition of alterative and aperient medicines, and of lotions and injections of various kinds to the vulva, vagina, and uterus. The subject of the case has never experienced a return of her complaint.

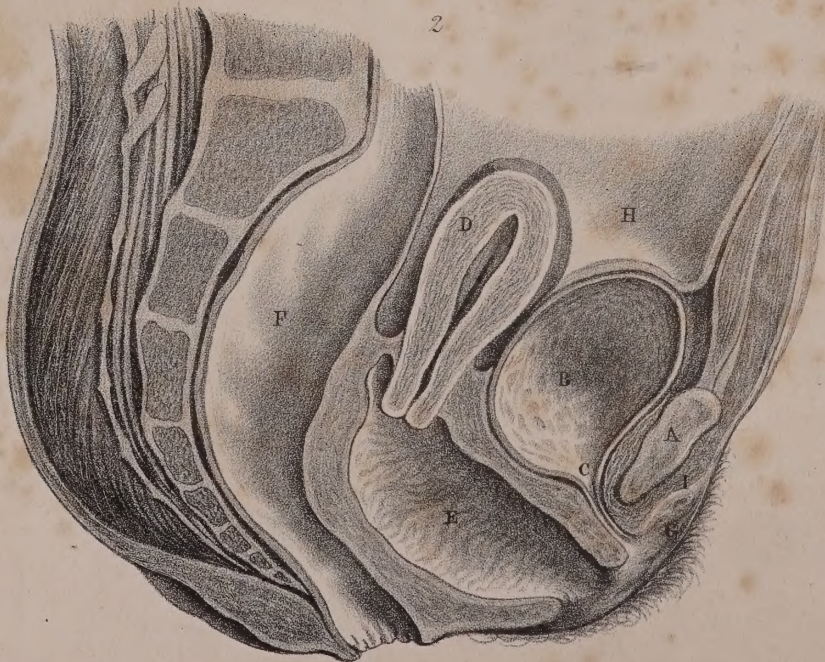
It is well known that certain diseases of the skin act as depilatories. Has sexual libertinism the same effect? Riolanus mentions the case of a woman of this description, whose person he had the opportunity of seeing after death, and whose pubes were totally destitute of the hairy covering.

Travellers, moreover, report to us, that there are entire tribes of native American Indians whose pubes are as little covered with hair as any other parts of their bodies. The Indian chiefs, native Brazillians, who were exhibited some years ago in Bond Street, by M. Chabert, afterwards the CELEBRATED FIRE-KING, were represented by their exhibitor as examples of a total absence of hair on or in the neighbourhood of the mons veneris. The author, who attended professionally the only child of the exhibited family, had the opportunity of satisfying himself that, in the case of the gentleman chief, M. Chabert's representation was quite correct. Buffon Hist. Naturelle, vol. vii.

Cases have been recorded of extremely morbid growth as to length, without being accompanied by any other disease, of the hairy covering of the mons veneris and pudenda. Ephimerid. Germ. dec. ii. an. vi. 1688.

But another and a very remarkable disorder of the same structure, or rather of the glands, whose office it is to secrete the hair, is the PLICA, to which the inhabitants of some parts of Poland and Lithuania are especially subject. The pudenda, in common with the head and with all other parts of the body which are usually covered with hair, is liable to the invasion of that odious and loathsome disease. When it has affected the region of the pubes, the hair proper to the part, besides being agglutinated by the morbidly viscid and horribly offensive secretions of its glands, has, in some cases, grown so enormously in length as to have reached the ground. To avoid the inconvenience and unsightliness which would thence result, its subjects are represented as being obliged to tie it up and to coil it about their thighs. Would not abscision be a better practice? See a letter from Dr. John Patterson Haine to the editors of the German Ephimerides, an. iii. p. 401. 1672.

REMARKABLE CONFORMATION OF THE PUBES OF SOME WOMEN IN EGYPT. —It has been reported by Sonini, in his Travels in Upper and Lower Egypt, that the native women of the country, the Copts, are subjects of the growth from the



pubes of a double column, of a loose, flabby, fleshy substance, of considerable length and thickness, which, from its hanging pendulous from its parent tract of structure, of which it is by some considered to be solely a production, has the effect of overshadowing and concealing the greater part of the rima pudendi. During early infancy it is represented as being of small dimensions. In girls of eight years of age it measures about an inch; but in a woman of between four and five and twenty, it exceeded four inches in length. Was not this the excrescence which was made the subject of circumcision by the ancient Egyptians; and not the preputium clitoridis and the nymphæ, as has been asserted by many writers, both of ancient and modern times? Or are the elongations of the latter structures not to be identified with the extraordinary growths from the pubis here described by Sonini? These suggestions will be again adverted to, when we proceed to notice some of the more remarkable diseases of the labia majora and nymphæ. Suffice it at present to observe, that the operation for the removal of these bodies, which is practised by women, is required to be performed agreeably to ancient prescription, at the commencement of the swelling of the Nile. The ordinary age of its subjects is about eight years.

The upper part of the mons veneris, which by the French is called *PENIL*, to distinguish it from the inferior portion, is sometimes the seat of a distressing malformation; viz. that of a preternatural and vicarious outlet from the bladder. The subject of such malformation will, with more propriety than at present, come to be discussed, in common with other congenital malformations and diseases, in the last department of our undertaking, of which the object will be to treat of the diseases of children.

The mons veneris is occasionally the seat of acute shooting pains, and of painfully tensive and dragging sensations, sometimes alternating with similar affections of the labia and groins, and at other times extending to the hypogastrium and iliac regions: but seldom admitting of being referred to their causes or proximate seats. They are, however, generally supposed to be indicative of certain morbid conditions of the uterus, or of such of its dependences as, together with it, are said to constitute the uterine system. Many observations are however wanting to give much practical value to these conjectures.

There is, in the Anatomical Museum of the University, an interesting cast of the pubes and parts adjoining of a young lady of thirteen years of age, which was taken under the direction of the late Mr. Taunton, of Hatton-garden, and which represents with great fidelity a fungoid growth, covered so as entirely to have concealed the mons veneris. The first inconsiderable buddings of this excrescence took their origin from the extreme angle of the anterior commissure of the vulva. These earliest sproutings extended rapidly to, and implicated in, the same fatal derangement of structure the whole of the substance of the mons veneris itself. It seems probable that this mass of fungus, which was of a softish lacerable texture, easily made to bleed, of a purple or darkish-red colour, and divided by inequalities and fissures into partially separable portions,

owed its origin to a constitutional affection ; since, before the death of its subject, there appeared, high up on each thigh, interiorly, the first buddings of fungöid excrescences, of a precisely similar character. Mr. Taunton, nevertheless, had made up his mind to take the chance of an operation, when his patient became the subject of a malignant variety of measles and died. PL. VII. FIG. I.

It may be in the recollection of most of our readers who are experienced in the practical duties of midwifery, that puerperals have sometimes to refer to the pubes, and especially to the precise locality of its symphysis, as the seat of acute pains. The external structure of the part is generally found slightly, sometimes considerably tumified ; and is always exquisitely tender upon the application of pressure. This affection is not unfrequently a sequel of a perfectly easy labour. It is very often accompanied by some difficulty in voiding the contents of the bladder. When not the result of rupture, nor of much contusion of the ligaments of the symphysis, it speedily yields to the action of a blister. From the near vicinity of the part to be thus treated, it is scarcely necessary to remind the reader, that a layer of thin muslin or of silver paper should be interposed between the blister and the integument to be vesicated. The distressing accident of the actual rupture of the ligaments of the symphysis pubis will present itself for consideration in our puerperal department, as one of the consequences of severe labours.

OF THE STRUCTURE, FUNCTIONS, AND DISEASES OF THE LABIA MAJORA.—At the anterior commissure, which nearly corresponds with the angle of the pubis, the Mons Veneris becomes distributed at its inferior limits into two parallel and equal columns, of a soft, carneous, and integumental structure, which are called labia majora pudendi. These constitute the lateral and external boundaries of the vulva, or genital fissure. The several constituents of their texture are, skin, which is usually very soft and delicate ; sebaceous glands ; glands in common with the mons veneris for the secretion of hair ; numerous capillary arteries, principally derived from the superficial pudic branches of the femorals ; corresponding veins ; lymphatics, which discharge themselves into the inguinal glands ; nerves, which are derived from the lumbar plexus ; a muscle and a mucous membrane, or perhaps, more properly, an internal integumental surface, charged with muciparous glands. The commencement of the division of the mons veneris into the labial columns, is called the anterior, and sometimes the superior commissure ; as also their line of meeting again inferiorly, where they communicate with the anterior perinæum, is called the inferior, and occasionally the posterior commissure.

In young and healthy subjects, and in the corpulent of all ages, the labia are generally firm and well evolved. In some few individuals they are small and slender, as if consisting of little more than of the folds of their integumental tissue ; whilst in a third class they are more voluminous, but shrunk, shrivelled, and pendulous ; as is generally the case in old age and in states of great emaci-

ation from whatever cause. Their cellular tissue is somewhat more loose and spongy than the same structure in other parts of the body; and is intermixed with numerous capillary vessels, both sanguiferous and lymphatic. The labia, in their healthy state, are of equal length, parallel to each other, and, in the more common attitudes of the body, in mutual apposition of their internal surfaces. Their sebaceous glands, in common with those of the inguinal integuments, secrete a fluid of a sebaceo-oleaginous character, to guard both the one and the other surface against the effects of friction. Their internal surfaces present the character and perform the functions of a mucous membrane. Underneath these surfaces we can trace some muscular fibres, which take their origin from the pubis, advance in two slender bundles, to invest the corpora cavernosa clitoridis, and then descend on either side of the vestibule, to be inserted in a common plane to the ischio-perineal and coccygeal muscles. From the course which is followed by the muscular fibres thus distributed, it is manifest that they are intended to act, in some degree, as constrictors of the part which they surround.

THE USES OF THE LABIA are, to contribute, with other structures which are contiguous to them, to fill up and to give a suitable finish to the architecture of the inferior aperture of the pelvis; to afford protection to the vestibule and os externum against the intrusion of cold air and other noxious influences; and to supply the passage to and from the uterus, with such a valvular outlet as should be equally competent to limit moderately its capacity, or to admit of its indefinite development, agreeably to the demands of its numerous and admirable functions.

OF THE DISEASES OF THE LABIA MAJORA.—Consisting, as we have seen they do, in a more than usual proportion of CELLULAR STRUCTURE, the labia are subject, in common with other parts of the body similarly constructed, to infiltrations of serous fluids, by which they are occasionally prodigiously tumified. In cases of anasarca of the lower extremities, whether as an effect of a general hydropic affection, or as the result of an accidental or temporary cause, these organs seldom fail to become similarly affected. In ordinary cases, the enlargement amounts only to a moderate degree of intumescence, sufficient only to occasion a sense of slight stiffness and tenderness. In some other cases, in such e.g. as are found to depend upon considerable obstructions, either to the sanguiferous or to the lymphatic circulation, the labia majora become the seats of intense pain, as well as of the most prodigious enlargement, from serous infiltrations. In a certain proportion of cases the morbid effusion is made only into the cellular structure of one labium: whilst, in the greater number, they both become equally parties to the distension. The more frequent cause of anasarcaous tumefactions of the labia, when they occur in their most painful and distressing forms, is pressure of the gravid uterus on the lymphatic vessels, in the course of their passage through the pelvis, at an advanced period of gestation.

These effects usually occur in women having pelves of sufficient amplitude to admit the gravid uterus to sink more or less deeply into their cavity, at a late period of pregnancy. The author recollects one case, in which the effect was partly ascribable to this cause, and partly to a general hydropic diathesis. Both labia were engorged ; but one was prodigiously distended. The uterus was so low in the pelvis, that it felt to be absolutely incumbent on its very flooring. It was, however, distinctly moveable upwards, by the application to it even of moderate pressure. There was no difficulty in breathing, nor any other indication of effusion into the thorax. The treatment adopted was simple, and proved effectual. The patient was advised to lie down, with her head and shoulders as low as she conveniently could, and to use the horizontal posture exclusively ; while, for the general infiltration, which indeed seemed co-extensive with the cellular tissue of the entire surface of the body, she was prescribed calomel and digitalis, in the proportion of three grains of the former and one of the latter, night and morning ; with the occasional addition of moderate doses of powdered jalap and citrat of potass. This treatment had the effect, in a few days, of completely removing the anasarca. The labia were also reduced to very nearly their natural size. To retain them, however, in a state of moderate non-distension, the patient found herself under the necessity of keeping to the position prescribed to her till the accession of her labour. A young lady of colour became the subject, at an early age, of symptoms of uterine irritation of considerable intensity. Upon the first efficient examination of her case, a large tumour was found to occupy the hypogastric and left iliac regions. This led to an inquiry per vaginam. The pelvis was so entirely occupied with an extension, as it seemed probable, of the same tumour, as it usually is found to be in cases of complete retroversion of the uterus. In the further progress of the case both labia pudendi became enormously distended by serous infiltrations. The portion of the tumour which was contained within the pelvis being found to be perfectly immoveable, no mechanical resource presented itself for the relief of this particular symptom. In the course however of some weeks after the first consultation which was held on the case, it effected, in a great measure, its own relief, by the internal surface of the left labium inferiorly becoming the seat of a profuse transudation of serous fluid. Upon a careful inspection of that surface, no obvious solution of continuity could be detected. The moment the moisture was wiped off with a dry napkin, that instant the same appearance of moisture presented itself again, and it rapidly accumulated into globules and streamlets sufficiently to distil visibly from the part during a very brief inspection of its condition. The patient eventually died in a state of great exhaustion and marasmus. Over-distension of the bladder seemed to be the immediate cause of her death. She, however, survived many days after it had ceased to be possible to introduce the catheter. The tumour consisted of a sarcomatous growth from the periosteum of the left side of the pelvis itself. It occupied the whole of its cavity, and in many parts it was attached by strong

adhesions to such surfaces of the bladder, rectum, and uterus, as had been most immediately exposed to its pressure.

Some writers on midwifery have recommended incisions into the labia in all cases of distressingly painful distension, from the infiltrations which form the subject of our present consideration. As far as the author can speak from personal experience, he could scarcely feel himself warranted in objecting to that practice. The reader, however, should be apprised that practitioners of eminence have strongly reprobated it; grounding their objections to it on the great tendency which, they assert, attaches to wounds inflicted on the surfaces of these parts to become ill-conditioned, and to run into fatal inflammations and sloughings.

OF ENLARGEMENTS OF THE LABIA MAJORA, FROM INFLAMMATION AND EXTRAVASATION OF BLOOD INTO THEIR SUBSTANCE.—These structures are liable to several varieties of inflammation. Of these one of the principal, and the only one which it is the author's intention to illustrate in this place, is what is usually called phlegmonous inflammation. This affection is most frequently the result of accidental contusion. It is attended with an acute throbbing pain from the beginning; and when depending upon a constitutional cause, it is generally ushered in by a severe rigor, or by a succession of smaller chills. These are followed by the ordinary symptoms of pyrexia; and the disease in most cases makes a rapid progress towards the completion of its natural crisis, that of suppuration and abscess. The abscess, almost always, points towards the internal surface of the affected labium. When the practitioner is consulted at the commencement of the suppurative process, he should attempt to cut it short, or to arrest its progress by resolution. To meet that indication he will have to order an ample abstraction of blood by general venesection, the application of leeches, from half-a-dozen to a dozen, to the interior surface of the part affected; as also fomentations to relieve pain and to promote an abundant discharge of blood from the leech-bites. To these measures may frequently with great advantage be either premised or added the exhibition of an emetic, consisting of two grains of tartarised antimony and a scruple of the powder of ipecacuanha. This vigorous practice, if it should not at once arrest the inflammatory action, will seldom fail to have the effect of diminishing its violence, and will therefore essentially contribute to limit the extent of the destruction of texture which otherwise might be expected to take place. In the event, however, of the suppurative action continuing, soft poultices should be applied in frequent succession, to soothe and to mature the process; and as soon as there shall be to be felt a distinct fluctuation of a fluid sufficiently accessible to the lancet, a free puncture should be made into the most depending part of the abscess. The application of poultices for two or three days afterwards, and then the use of simple dressings, will in the greater number of cases speedily effect a cure.

Cases of inflammation of the labia from contusion are not always so simple as the above description might lead the reader to suppose; extravasation into one portion being sometimes superadded to simple contusion of another part of the structure. Mrs. T., a haberdasher, in attempting to reach a bandbox from one of her highest shelves, lost her footing, and came down stridewise upon the back of a heavy old-fashioned mahogany chair. The fall was almost immediately succeeded by a considerable swelling and by intense pain of the left labium. A pardonable excess of modesty prevented her seeking advice till the third day after the accident. The tumour had been exquisitely painful from the beginning. During his first visit on the day above-mentioned, the author found Mrs. T. the subject of considerable fever; the affected labium was swollen to the size of a goose's egg. The whole of it was more or less indurated. In some parts it felt knotted and unequal. Its internal surface, more especially in the neighbourhood of the inferior commissure, presented a vivid inflammatory appearance. At this part there was also indistinctly to be recognised a fluctuation of deep-seated fluid. Its temperature was that of a high phlogosis; whilst the neighbouring surfaces, including the groin and the upper parts of the thigh of the same side, exhibited extensive marks of ecchymosis. The patient seemed desirous of representing the THROBBING of the affected part as the principal cause of her distress: and this she added "it was that had so completely deprived her of her natural rest." She had had no sleep since the moment of her accident. The above symptoms suggested the following treatment. The fluctuation being obscure, it was deemed proper to defer the operation of puncturing to the following day; when it was calculated the contents of the abscess might be found in a more ripened state, and more within the reach of the lancet. But durinasmuch as deep-seated suppuration was going on, and the patient was enduring extreme pain, it was deemed advisable to check the activity of that process by free general bleeding; such as should induce full fainting. To limit still further the destruction of structure, which there was every reason to fear might yet prove considerable, eight leeches were ordered to be applied to the more inflamed parts of the tumour, and subsequently a succession of fomentations and soft poultices to the whole of the pudendum. Aperient and other antiphlogistic medicines, with an anodyne draught to be taken at bed-time, were prescribed. On the following day it was reported that the patient had slept several hours in the course of the night. Her countenance exhibited less distress; but still she complained of much deep-seated aching and throbbing pain of the part. The fluctuation of the effused fluid which had been felt so obscurely on the previous day, was then distinct and sufficiently approximating towards the surface to warrant a puncture or an incision. That measure was accordingly proposed, but rejected by the patient. The poultices were therefore ordered to be continued; and after the lapse of about thirty hours from that time, the abscess burst and gave an exit to what probably might amount to an ounce of well-concocted purulent matter, and to about double the quantity

of an imperfectly-coagulated grume. These two varieties of semi-fluids were represented by the nurse in attendance, as having occupied separate portions of the labia. Upon the bursting of the abscess, the part was well sponged with warm water, and afterwards fomented for some hours with a decoction made with chamomile flowers and poppy-heads. To remove all remains of grumous particles, and to effect a thorough cleansing of the interior of the abscess, the same fluid was forcibly injected into it by means of a powerful syringe during two successive visits. A soft poultice of bread and water was then applied, and ordered to be frequently renewed. On the succeeding day the discharge being sanious and offensive, and not laudably purulent, the poultices were ordered to be made very stiff in the first instance, and then to be softened down into a thin pulp, with equal portions of port-wine and decoction of bark; with which also the interior of the ulcer was directed to be well syringed morning and evening. By this treatment the character of the discharge was speedily improved, and the wounded structure of the part was eventually so well filled up, as to have left but little indication of the injury which it had sustained. Had the subject of the above case made application for relief immediately after receiving her accident, and before the process of suppuration had commenced, it might probably have been better treated by making a deep incision into the part, so as to have obtained an early evacuation, even before its coagulation, of the blood, which had been so profusely effused into the cellular membrane.

An interesting example is given in the *Recueil Periodique*, vol. i. p. 455, which occurred in the practice of M. Sedillot the younger, of an injury of these parts, which was sustained by an adult female, precisely from the same cause as in the case just related. But in the subject of M. Sedillot's observation, the labia majora, the nymphæ, and even the vagina, WERE EXTENSIVELY LACERATED. The injury was immediately succeeded by a profuse hæmorrhage. The loss of blood was indeed in that case so considerable, that its arrest is made the prominent part of M. Sedillot's history. It was effected by plugging the vagina. There is introduced into the same article of the work just referred to, a case of laceration of these parts, which occurred in the practice of M. Causabon, and which actually proved fatal from loss of blood. A woman of thirty years of age, of a bilious temperament, in her seventh month of pregnancy, received a severe kick on the pudendum. A tumour immediately appeared on the lower part of her vulva, which quickly became as large as the head of a child. It burst on the left side of the genital fissure, and an immense coagulum escaped, which was followed by so profuse a hæmorrhage that it quickly destroyed the patient's life. The cæsarean operation was forthwith performed upon the body, with a view to the preservation of the child: and the child, when taken out of the uterus, was indeed alive; but it ceased to live in about half an hour after its extraction. The tumour was laid open in order to ascertain, if possible, the precise source of the hæmorrhage. A

large coagulum of blood was found lodged between the vagina and its naturally adjoining parts, from which it had been separated. From this it was inferred that the hæmorrhage had proceeded "from a rupture of vessels leading to the vagina." It may here be usefully intimated to the reader, that the subject of this history, being in her seventh month of pregnancy, was necessarily much more predisposed to vascular fulness of the genitals than it is likely she could have been at any other time. The veins of the lower extremities are often in a state of extreme varicose enlargement, during the latter weeks and months of gestation; and it is well known, that the labia majora and nymphæ are equally parties to a similar morbid distension of their vascular structure during the same period, and for the same cause. If M. Causabon's patient had not been pregnant, it seems more than probable that it might have been competent for the medical attendant to have arrested the hæmorrhage, which, in her actual state, effected her destruction.

The labia majora are not so vascular in proportion to their bulk as are the labia minora, or nymphæ; nevertheless, if the author might depend upon the results of his own experience in this matter, they are much more frequently the seat of varicose enlargement of their veins. Intumescence from this cause is, however, a rare disease, excepting as an accompaniment of pregnancy; and then it is seldom complained of as a cause of any considerable distress: whereas, in some cases of intumescence, of apparently the same kind, in the absence of gestation, it has been an exquisitely painful sensation. How far this character of it may be imputed exclusively to violent distension of the varicosed portions of the affected veins, or whether there may be also superadded some essentially suffering condition of the accompanying nerves, the author has had no means of determining. The pain itself is usually described as a deep-seated and exquisitely intense aching. The prognosis is, upon the whole, unfavourable; inasmuch as no treatment has hitherto been offered which has been really calculated either to effect a cure of the disease, or even materially to lessen the patient's misery. It has been thought that fomentations have occasionally given temporary relief; and we may well presume, from what we know of their effects in other painful diseases, that they might also in this, exert some beneficial influence in soothing the extreme sensibility of the affected part. In other cases, however, an apparently opposite practice has been adopted; viz., that of an assiduous use of cold and astringent lotions to the part, with the view of promoting vascular contraction, and eventually of reducing the size of the varicosed enlargements. It has, again, been proposed to give gentle support to the relaxed structures of the part, by means of well-adapted compresses. The principle of this indication is purely mechanical, and is obviously the same as what has dictated the use of bandages and laced stockings to varicose legs. The author has never seen much good effected by these contrivances when applied in similar circumstances to the labia. Indeed, it seldom happens that patients can be prevailed upon to persist in the use of them for many days together. In one

instance, even moderate pressure became intolerable in less than six hours. That unfortunate case furnished also an example of the perfect inutility of puncturing varicose enlargements of these parts. The case in question was that of a poor woman of sixty-eight years of age, who in the earlier part of her life had had a numerous family. She had been the subject of the disease for several years. At the time of the author's first knowledge of her, she had been admitted a patient of a public charity, to which he was professionally attached. She was, however, more immediately under the care of the late Mr. Lawrence, of Featherstone Buildings, the Surgeon to the Institution. Both labia were in some degree varicosed; but the left had acquired the volume of a large orange. The intensity of the patient's suffering was such, that she expressed to Mr. Lawrence, her perfect willingness to undergo any operation or to submit to any kind of treatment which he might propose or devise for her relief. After consulting with his colleagues, Mr. L. proposed to try the effect of a puncture into a principal varix, with a view to effect suddenly a reduction of the painful distension of the part. This measure was accordingly adopted as a last resource, and as one which afforded at least a chance of giving some relief to the intolerable sufferings of the poor woman. The puncture did not appear to the author to have been immoderately large. But such were the magnitude and impetuosity of the torrent of blood which issued from it, that the patient's life was placed in the greatest jeopardy by the operation; whereas, as to ultimate result, no material benefit was derived from it even as a means of relieving pain. The fate of the late Lord Stair may be quoted as a pertinent example of the danger of attempts to disturb varicose tumours by surgical operations.

The sudden intumescence of the labia from the accumulation of extravasated blood during labour, of which there are recorded some interesting examples, is probably in many cases indebted, for their predisponent cause, to a varicose condition of their veins, acquired during pregnancy, or, as perhaps most frequently happens, to the same condition of the venous branches immediately communicating with them. The more distended portions of those structures having their tunics enfeebled in proportion to their distension during pregnancy, are obviously not a little exposed to the danger of a solution of their continuity, when they become the subjects of a still greater distension, which they can scarcely fail to do, during labours of great severity. The vessels which most frequently give way in the extravasations here referred to, are probably portions of the pudic veins. Immediately upon the blood making its escape through its ruptured vessels, it finds its way through the intermediate cellular tissue into the labium of the same side, and produces that sudden and extraordinary enlargement of it, which might be considered as almost forming an essential part of the pathological history of such accidents. The distension has in some cases been so enormous as to effect in a few minutes the spontaneous laceration of the internal surface of the labium. A case of this description occurred in the practice of the author, in the summer of 1822. The Hon. Mrs. O. was the mo-

ther of a numerous family of daughters. An heir to an extensive estate and to an expected title was earnestly wished for. No incidents of an unfavourable character had occurred during gestation to damp the ardour of her hopes; and the labour declared itself in due course at the fulness of her calculated period. The presentation was natural. The structures more immediately concerned in the function were well disposed. But the liquor amnii had been making its escape in dribbling quantities for several hours before the proper pains of parturition came to convince the patient that she was actually in labour. Soon after the author's arrival he found, on making the usual inquiry into the facts of the case, the orifice of the uterus in an advanced state of development. The child's head was in the best position, and it had already entered in some degree into the pelvis. The labour pains were vigorous, but not severe: and thus the process went on with every promise of a prosperous result for two or three hours; when the chamber bell was rung with great violence for the personal attendance of the author, who had retired a short time previously to the library. When he returned to his patient's room, nothing was said to him in explanation of the sudden demand upon his presence. He naturally suspected, however, that the labour was drawing towards a close. But upon approaching his patient to give the usual assistance in that event, he found that the left labium, which at the commencement of the labour and indeed for several hours afterwards had been of the ordinary bulk, was then become prodigiously enlarged; and on moving it in the gentlest manner in order to make way for an accurate exploration of the state of the parts and of the labour, it sustained a sudden laceration of its internal surface. No particular expression of pain accompanied this rupture. Several ounces of semi-coagulated blood escaped from the ruptured part; after which, the affected labium was reduced to very nearly its natural size. Its recent contents were removed, and dry napkins were applied in succession to the pudendum to receive any fresh blood which might continue to be effused. Not one word was said either by the patient or by her medical attendant on the subject of the accident. The subsequent hæmorrhage was so moderate as to excite no alarm; and a living son was born in about an hour afterwards to the great satisfaction of all the parties interested. The perinæum suffered no injury. The local after-treatment consisted exclusively in the application of a few soft poultices to the vulva; and the author thinks it doubtful whether even the nurse ever suspected that any injury beyond simple contusion of the parts had been actually sustained. The patient was able to sit up as soon as it is usual for ladies to do so on such occasions, and was in the enjoyment of the most perfect health long before the expiration of her puerperal month.

A case very similar to the above occurred in the practice of the Maternity Lying-in Charity, in the year 1821. The patient was, in the first instance, attended by one of the junior midwives of the Institution. After having sustained some active labour pains for several hours, she became the subject of profuse hæmorrhage. The young midwife was so alarmed that she abruptly left her patient, and desired the

family to send forthwith for Mrs. Bunn, an experienced and very intelligent midwife of the same Institution. On account of certain statements made by the patient, Mrs. B. was induced to inspect the os externum and its neighbourhood, which enabled her to discover that the left labium had been extensively ruptured. Such an accident having never occurred in her own practice, she was induced too easily and too implicitly to give credit to the representation of the patient, that the first midwife had treated her person with violence. The author, after having taken great pains to examine and to cross-examine all the parties, believes, that there was no good foundation for such an imputation. THE RUPTURE TOOK PLACE SOME HOURS BEFORE THE HEAD OF THE CHILD CAME DOWN TO BEAR ON THE OS EXTERNUM. During the remaining part of the labour the patient sustained some further loss of blood by a considerable oozing from the ruptured surface. She was, however, at length delivered of a well-grown living child, without having suffered any serious reduction of strength in consequence of the hæmorrhage. Having been admitted a patient of the Maternity on the recommendation of Mrs. Tierney, of Saville-row, who took an earnest interest in her well-doing, that lady was put in possession of the peculiar circumstances of her case. This incident is mentioned simply to authenticate the history. A case of extravasation of blood into one of the labia pudendi, which had the effect of enlarging it to an enormous size, once occurred in the practice of Mr. Blagden, of Petworth. The tumour in that case manifested itself suddenly after a tedious and painful labour. No spontaneous rupture of it took place as in the foregoing cases; but it was treated by incision soon after its formation. The patient recovered slowly. *London Medical and Physical Journal*, vol. xi. p. 42. In a case of spontaneous rupture of a varicosed labium, which occurred to a lady in her 7th month of gestation, M. Champion, a physician at Bar-le-Duc, greatly extended the wound thus produced, by laying the part open throughout its whole extent. He then introduced his finger along this fissure into a cavity immediately under the mons veneris, where he found room enough to receive a handful of flax, the only substance which he could find at the moment ready to his hand. By this contrivance he succeeded in arresting the hæmorrhage. The case eventually did well. *Dict. des Science Medicales*, vol. xxxiv. p. 268. Several interesting cases of the same description may be consulted in the 1st and 13th volumes of the *Recueil Periodique de la Société de Santé* of Paris. Mad. La Chapelle, in her *Pratique des Accouchemens*, vol. iii. p. 200, quotes a case of the same kind, in which the affected labium acquired the volume of AN ADULT'S HEAD.

ENLARGEMENT OF THE LABIA MAJORA IN CONSEQUENCE OF BECOMING THE SEAT OF ANEURISMAL CYSTS.—The arteries of these parts, from being imbedded in a structure little calculated to give them firm support, may easily become the subjects of aneurismal enlargements. It has, however, never happened to the author to have met with a case of the kind; but in illustration of the possibility

of the fact, the 32nd observation of Mauriceau, *Maladies des Femmes*, vol. ii. p. 29, may be advantageously perused by the reader. The subject of the history was upwards of sixty years of age when she first consulted that surgeon, and then she had been the subject of enlargement of her left labium for five-and-twenty years. Whether the tumour had been a painful one during any part of that period, is not directly stated. But Mauriceau, on finding that it presented the character of a considerable fluctuation, determined, with the advice of two of his colleagues, to make an opening into it. The operation was followed by the discharge of "a great abundance of aneurismal matter like the lie of red wine." The patient recovered in a few days, and was thus relieved of an inconvenience which for many years had given her much annoyance and anxiety. The treatment adopted on this occasion had never been suggested before, by reason of its having been suspected that the case was one of hernia. Aneurismal tumours may be distinguished from hernial protrusions, by their circumscribed locality, by their contents being included within thickly-coated cysts, by their not extending continuously to the groin, and by their not possessing the usual characteristic attributes of true hernial enlargements.

OF ENLARGEMENTS OF THE LABIA MAJORA FROM HERNIA.—Hernial swellings of these parts are of three special varieties, according to the localities of the intestinal protrusions. Of these the most frequent is inguinal hernia; which however does not occur so frequently in women as in men. It is distinguished by the characteristic symptoms of intestinal hernia; by the elastic feel of the tumour; by its occupying the course of the round ligament; by there being little or no pain on pressure; by an increased bulk of the part during coughing, and in consequence of constipation; and in most cases by the peculiar crepitus of hernial tumours. The treatment must proceed on general principles. Reduction will naturally present itself to the practitioner's mind as a first object. In common cases that object will generally be easily attained. In others, certain suitable measures must be premised in order to prepare the patient for the operation; such as free bleeding, the use of the warm-bath, the exhibition of nauseating doses of tartarised antimony, or of one of the preparations of tobacco in cautious quantities. It is of great importance to succeed in the reduction of the protruded loop of intestine without cutting; inasmuch as the latter operation is considerably more difficult of performance in women than in men. That ultimate resource of our art is however sometimes necessary. Operations for this variety of hernia are numerous recorded, and the high value of them is duly appreciated by the profession. One of the most interesting which it is possible for the author to refer to, may be found registered at great length in Mr. Benjamin Gooch's *Cases and Remarks on Surgery*, vol. ii. p. 200. See also Sandifort's *Thesaurus*, vol. iii. p. 89.

Another variety of intestinal protrusion, is what has been called hernia thyroïdea. This is a rare variety; and even its existence has been doubted. See

Richerand's article: *Dictionnaire des Sciences Medicales*, vol. xxi. p. 166. It consists in the protrusion of a loop of intestine through one of the obturator or thyroïd foramina, in front of the pelvis. Over each of these apertures there is stretched a strong membrane, to the surfaces of which are attached the obturator muscles. These muscles, deriving their origin respectively the one from the inside and the other from the outside of the foramen ovale, would seem, on first view, to occupy the aperture so completely, as to leave no space for the escape of portions of intestine, nor of any other pendulous structure from the abdominal cavity. On a careful dissection of the parts, however, it will be found, that the foramen ovale is not so entirely made up by its obturator membrane and muscles, but there is left at its upper part interiorly an oblique space, known by the name of sinuosity of the ischium, for the passage of the obturator blood-vessels and nerves. Through this space, portions of intestines have been known to protrude, sufficient to form the present variety of hernia.

The best treatise known to the author on this subject, forms part of an Essay on Hernia, by M. de Garengeot, in the *Memoirs of the Royal Academy of Surgery*, vol. i. p. 709. Hernia thyroïdea being little known in this country, he thinks it may be useful to present his readers with an abstract of one or two of M. Garengeot's principal cases. The first which that gentleman details occurred in a female who had been recently puerperal. On the fifth day after her delivery, she considered herself well enough to get up, and to change her room. In attempting to make two or three hasty strides as she was going down stairs, her foot slipped, and she came down with great force on one of her nates. From that moment she felt a severe pain in the upper part of her right thigh, near the labium pudendi of the same side. Upon this she immediately returned to her chamber, and went to bed. But in about half an hour afterwards, she was seized with severe vomitings, and not one thing would remain on her stomach. On the third day, from the commencement of these vomitings, it was discovered that the rejected contents of the stomach were of such a character as to indicate the existence of some extraordinary embarrassment in the intestinal canal; such as the iliac passion, or a strangulated hernia. At this stage of the mischief, M. De Garengeot, who had some days previously been consulted on account of retained placenta, was again requested to give his attendance. On his arrival, he examined with great care the deep-seated parts where descents of the intestines are usually formed, but without being able to discover any hernial protrusion. The case was peculiarly embarrassing, inasmuch as there was present neither tension of the abdomen nor fever. In reply to some of his interrogatories, he received the information, that immediately after the shock which the patient had sustained from her fall, she was sensible of some great derangement having taken place among the visceral contents of the hypogastrium; whilst, at the same time, she felt severe pain on the inside of the right thigh. She further stated, that the colic pains seemed to her to take their origin from the right groin; that the

vomitings succeeded immediately to the pains; that both had continued uninterrupted up to the time of M. Garengeot's visit; but that the pains of the thigh had become more and more exasperated upon every successive effort to vomit. These statements, supported by the recollection of two cases of hernia thyroïdea, which M. Arnaud de Ronsil read before the Academy of Science about twenty years before, induced M. de Garengeot to suspect that the present case might be one of the same kind. Upon a careful examination of the parts, he soon felt satisfied that his conjectures were well-founded, and he confidently came to the conclusion, that a portion of intestine had really effected its passage through the sinuosity of the foramen ovale, which it might probably have enlarged by causing a trifling separation of the ligamentous membrane, and of some fibres of the obturator muscles from their respective surfaces of attachment. M. de Garengeot succeeded in reducing the tumour by the taxis. "To make the manœuvring of the operation more easy," he observes, "I raised the patient's buttocks, and caused to be put under her a bolster doubled, and a pillow under her head. This situation, in which the seat was more elevated than the rest of the body, and the head a little bent forward and supported, seemed to me at once calculated to determine the intestines towards the abdomen, and to relax the muscles on the inside of the thigh. Having applied to the tumour an oily embrocation which I found in the house, I moved it gently from the bottom to the top, and by repeatedly making pressure on it with the flat of my hand, I perceived that the intestine became reduced, and that the tumour gradually disappeared. Whilst these movements were being effected, the patient felt in an instant a kind of rumbling noise in her abdomen, which, to make use of her own words, SET HER AT EASE. The tumour entirely disappeared. Her colic and vomiting ceased; and in seven or eight minutes afterwards she had an evacuation from her bowels." After congratulating himself on his success thus far, in the management of a case of which no author had then treated, and which had only once been noticed by a writer (Renaume de la Garanne, *Traité des Hernies*, p. 95) who had even expressed a doubt of its existence, M. de G. proceeded to examine the part which the tumour had occupied before its reduction. He observed that underneath the skin and cellular membrane of that part, there was a void or hollow place between the two anterior heads of the triceps muscle. For this hollow he adapted a cushion made with pieces of old linen, which should pretty completely fill it up. This was kept in its place by a suitable bandage. On the fifth day after the operation the bandage was removed, and the surgeon had the satisfaction of observing, that the heads of the triceps muscle, which had been separated, had again so far approached each other, that no discernible space could be traced between them. A compress of a longitudinal form, and of little thickness, kept in its situation by a bandage, of which one portion went round the waist and the other over the compress and round the thigh, was the only dressing that was employed during the succeeding month. It was removed, and reapplied once a

week; and the patient, who kept herself disengaged from her ordinary occupations during that period, never afterwards felt any inconvenience.

The following example of a hernia thyroïdea, which occurred in the practice of M. Malaval, is here added, and it will suffice to illustrate the point of practice which alone can give it any great claim on the reader's attention, viz.—The safety of the treatment by cutting, in cases indispensably requiring such an operation. An unmarried lady became the subject of a soft unequal tumour at the superior part, and on the inside of the thigh. “The accidents by which it was accompanied” made M. Malaval suspect its true nature before he saw it; but when he had the opportunity of accurately examining it, he recognised in it a case of hernia by the thyroïd hole. He attempted its reduction, and he so far actually succeeded, that he caused the re-entry of the intestinal part of the protrusion into the cavity of the abdomen. He more than once repeated these manœuvres; but there always remained in the hernial sac something which he could not reduce, and which he suspected to be epiploon. After having effected in this way the reduction of the intestines many times, and on different days, without being able to replace the epiploon, he advised his patient to see M. Arnaud. She accordingly sent for M. Arnaud, and that gentleman as soon as he had sufficiently examined the tumour, confirmed, without hesitation, the opinion of her previous medical attendant as to the nature of her case. Notwithstanding, however, the great dexterity of which that gentleman was master, he could only reduce the protruded gut in the same manner as M. Malaval had also been able to do. He therefore intimated to his fair patient, that it was necessary she should submit to the operation of amputating a portion of the epiploon. The young lady consented; and M. Arnaud proceeded at once to its performance. He began by reducing the intestine; after which he made an incision over the tract of the tumour, through the integuments and cellular membrane, in order to discover the hernial sac. Having laid bare the cyst, he opened it and found in it a portion of epiploon of about the size of a walnut. He cut it at the part where it had insinuated itself between the heads of the triceps muscle. He then took off a portion of the sac, and forced down the remainder between the heads of the triceps muscle. The wound was dressed and afterwards treated in the usual manner. The operation was perfectly successful. Slight protrusions through the ischial sinuosity have occasionally been encountered by practical anatomists in cases where no inconvenience had arisen from them, and where even their existence had not been suspected during life. M. Hommel, prosector of anatomy in the theatre of anatomy at Strasburgh, possessed a preparation of this kind. It displayed two portions of peritoneum, corresponding to the obturator foramina respectively, protruding through the sinuosity of the ischium on either side, and forming two sacs, capable each of containing a large pigeon's egg. A preparation showing the same pathological fact is at the present time to be seen in the valuable collection of morbid specimens in St. Thomas's Hospital.

To the above varieties of hernial protrusions into the immediate neighbourhood of the external genitals in females, Mr. Professor Burns adds a third, which he calls pudendal hernia, and which occupies the middle of the labium. "It may be traced," says that writer, "into the cavity of the pelvis, on the inside of the ramus of the ischium, and can be felt as far as the vagina extends." It has never occurred to the author to have met with this variety of hernia. It is obvious that its treatment must be attended with considerable difficulty. The most expert operator and mechanic would of course succeed best. Burns' Principles of Midwifery, p. 60. Journ. Generale de Med. tom. lvi. p. 259.

OF PROTRUSION OF THE URINARY BLADDER AS A CAUSE OF INTUMESCENCE OF THE LABIA.—Hernia vesicæ. Hernia cystica. Cysto-cele. This rare variety of enlargement of a labium pudendi is the result of displacement of a part of the urinary bladder. Such displacement of the bladder is, however, seldom so situated, or its protrusion so great, as to occasion a swelling externally. When it does occur, it principally occupies the internal portion of the labium, and, in common with it, the tract continuous from it along the os externum and vagina, within and in front of the pelvis. The proximate cause and an essential condition of this displacement is, a state of separation of the fibrous and cellular textures of the part through which the protrusion makes its transit. The parietes of the vagina, it is well known, are liable to many influences productive of relaxation and want of tone. This kind of tumour is to be distinguished by its wanting the common symptoms of pudendal hernia; by there being no œdema of the affected labium; by its not being indurated like a scirrhus of the part, nor tuberculated and knotty like a labium tumified by extravasated blood; by pressure being sometimes found competent to effect a temporary reduction of its bulk, and probably in most cases by a tortuous direction, or some other variety of malposition of the urethra. In the treatment of cases of protruded portions of the bladder, reduction should be considered as a first object. Before, however, it could be proper to institute any attempt to accomplish that object, the protruding portion of the bladder should be emptied; but this the practitioner would not always find easy, nor even practicable to effect. But should he succeed in both these objects, his remaining indications will be to give tone to the relaxed parietes of the vagina by astringent injections, and an adequate mechanical support to them by a well-adapted pessary or other contrivance, which should be competent to prevent a future descent. A remarkable example of a hernial protrusion of the bladder, occurred some years ago in the author's practice. The subject of it, who was a patient of his friend, Mr. Morgan, of Bedford-row, was advanced between seven and eight months in her first pregnancy. The author's opinion was more especially requested on account of the gestation. The tumour, which was about the size of a lemon, occupied the left labium, and principally an inferior portion of the vestibule, and of the external orifice on the same side;

so as to have had the appearance, more than the actual effect, of blocking up the vaginal passage. It thus became a question with the lady herself and her friends, whether a body of such magnitude, occupying so much space at and within the outlet of the parturient passage, might not present a formidable or even a fatal obstacle to the patient's delivery. The lady herself, it should be observed, was exceedingly desirous of having it removed, and therefore availed herself eagerly of the opportunity now presented of having the question discussed. That point, however, was soon and easily settled. The pelvis was one of very sufficient amplitude, both at its brim and at its outlet, for even more than the ordinary demands of parturition; whilst the tumour, besides its being compressible into almost any modification of figure, was so situated as to admit of being propelled by the head of the child during labour, far enough beyond the boundary of the unyielding part of the passage, to ensure to the anticipated labour a safe and a happy consummation. The tumour was elastic, without having the characteristic crepitus of intestinal hernia. In short, its feel was that of a cyst containing a watery fluid. No urine could, however, be forced out of the urethra, by pressing the tumour with the hand, nor by that means could any sensible reduction be made in its volume. The direction of the urethra was become considerably tortuous. That fact was sufficiently ascertained by the introduction of flexible catheters and bougies. It being the opinion of the author, that it was neither necessary nor safe to remove the tumour, nor practicable apparently, even to diminish its bulk by any plan of reduction, pressure, or other expedient, he thought it his duty to propose a consultation with some eminent practical surgeon. Accordingly, on the following day, he had the pleasure of meeting Mr. Lawrence. After having made a careful examination of the tumour, both as to its locality and probable constituent structure, that gentleman, without being apprised of it, came precisely to the same conclusion as the author had done during his preceding visit; viz. that the case was one of protrusion of the bladder. This perfect agreement in opinion on a case so unusual, and one involving some difficulty in its prognosis, could not fail to be satisfactory to both parties. It was however not equally so to the parties more immediately interested in its eventual results. It was especially the anxious wish of the lady herself to be furnished with a professional sanction for the immediate and absolute removal of the tumour by a surgical operation. In the course therefore of two or three days subsequently, she insisted upon taking the opinion of another eminent surgeon on her case. During the first visit of that gentleman, which was paid not in consultation with either of his predecessors, he pronounced the tumour to be a polypus; and engaged to bring with him on the following day the necessary apparatus to effect its removal. On the following day he paid a second visit, and examined the tumour with the utmost care, and with the greatest attention to all the circumstances which could lead to a true diagnosis. On that occasion he indeed expressed his adherence to his first opinion, but with a manifest diminution of confidence: but after paying one or two more

visits, he formally declined to operate, and withdrew. At the full period of gestation, the lady was delivered of a living child without experiencing any sensibly additional difficulty from the presence of the tumour. In about a twelvemonth afterwards, the author had an opportunity of hearing that the hernial enlargement remained precisely in the state in which he had seen it, excepting that a superficial ulcer of an unseemly appearance, on a part of its surface which was most exposed to friction from the patient's dress, had completely healed soon after her confinement.

IS THE AFRICAN ELONGATION OF THE EXTERNAL GENITALS AN AFFECTION OF THE LABIA MAJORA?—The fact of the remarkable structural conformation intended in this place to be made the subject of a few remarks, has been known in Europe since the year 1686, when Ten Rhyne, *De Promontorio Bonæ-Spei*, furnished a description of it. During the last half century, many authors have referred to and described it, and yet even at the present day it seems to be a matter of some doubt whether the Hottentot apron, as by some it has been called, be an enlargement of any of the natural structures common to women of all countries, or whether it is an indigenous growth superadded to such structures, but not really forming a part of them, peculiar to the females of one or more tribes of Africans. By some it has been described as a prolongation of the nymphæ, and by others of the labia majora; whilst by a third class it has been represented as an original excrescent production, taking its origin from or near the superior angle of the sexual fissure immediately above the clitoris. M. Vaillant, a celebrated traveller, whose accuracy and fidelity have never been questioned, personally examined the Hottentot apron with great attention. He moreover took a drawing of it on the spot, from which an engraving has since been produced. M. Vaillant says, that the peculiar substance in question is not a prolongation of the nymphæ, but of the labia majora; and he assures us, that by the Hottentots themselves it is considered not only not a deformity, but an affair of fashion and of taste; and that its length depends on the greater or less pains which its subjects take to promote the growth of their singular decoration. Barrow entertains the same opinion, and it has also been adopted by Professor Moreau de la Sarthe. Vaillant's *Travels in Africa*. Moreau de la Sarthe, *Histoire Naturelle de la Femme*, vol. ii. p. 529. Captain Cook and most other voyagers have considered the growth in question as an elongation of the nymphæ. Such also is the opinion of Dr. Somerville, *Medico-Chirurgical Transactions*, vol. vii. part 2; and likewise that of a very intelligent physician, personally known to the author, now resident at the Cape of Good Hope. Whilst the analogy to be derived from the fact, that the clitoris and its prepuce, together with some portions at least of the labia minora, are made in almost all the Mahommedan countries the subjects of circumcision, might appear to lead to the same conclusion. However supported by authority, it is obvious that both of the above opinions cannot be true: and it being certain that one or the

other must be unfounded as to the actual fact which it professes to represent, it is therefore quite possible that they may both be erroneous. We accordingly find that both have been disputed, if not absolutely successfully controverted. Péron and Lesueur submitted to the French Institute in the year 1805 two Memoirs on this singular production. Their contents had been originally intended to form part of a work projected by the former gentleman on the history of the several savage nations which he had visited. See Capt. Fresneau's *Continuation du Voyage de Péron aux Terres Australes*, Paris, 1816.

The following important facts, in correction of former travellers, seem to be satisfactorily made out by the authors of the above essays; viz. that the extraordinary growth improperly called the Hottentot apron, is a peculiarity of the women of another people; that it is never to be met with among the Hottentots; that it is constantly a characteristic structure of the women of a numerous nation known under the name of Houzouânas, or Boschimans; that it is to be met with equally among the young and the old, with the difference simply of volume; it being smaller in the former than in the latter; that it has nothing in common with the several parts which constitute the external genitals of the women of other nations; that it is not a duplication of the integument of the abdomen; that it is not a prolongation, either natural or artificial, of the labia majora nor of the nymphæ; that its existence is independent of any disease; that it is not the result of any artificial mode of prolongation; and that it gradually disappears in consequence of cross marriages between the races of the Boschimans and the Hottentots. Subsequently to the date of the above memoirs their curious contents have been confirmed by the researches of M. de Janssens, instituted during a residence of three weeks amongst the Boschimans, which left no doubt on his mind that all the Boschiman women were subjects of this confirmation. The constituent structure of the superadded part consists of a fleshy substance, covered with a brownish integument. It takes its origin from the anterior commissure of the labia majora. From this source it becomes gradually developed in width, and after dividing itself at no great distance from its origin, it descends in two pendulous lappells of a triangular figure, so as to form the pudendal apron now pretty satisfactorily proved to be a characteristic distinction of the Boschiman female.

OF THE OOZING TUMOUR OF THE LABIA MAJORA.—This disease was first described by Sir Charles Clarke, in his work on the diseases of females. It consists in a morbid elevation of the integument into thickly-studded prominences, having between them interstices or depressions, from which the humour, which gives this affection its name, oozes. The colour of the tumour varies but little from that of the cuticle of the neighbouring surfaces, “and a projection very much resembling it might be made by the firm application of a piece of fine netting to an œdematous part during a few seconds.” It seldom rises more than

a line or two, and still more rarely, than a third of an inch, above the level of the healthy skin of the parts immediately surrounding it. Sometimes the parts in the neighbourhood are in a state of œdema; but the tumour itself is not œdematous. The secretion from the affected surface is of a watery character, and corresponds in appearance with that of the vaginal discharge from the cauliflower excrescence. The quantity of fluid thus furnished is always in proportion to the extent of the disease; but it is moreover to a certain degree influenced by the state of constitution of the subject, and by changes in the state of the atmosphere. It never has presented itself in early life, and not often at any other time, excepting in corpulent subjects, and in women who have had their constitutions debilitated by frequent child-bearing and other causes. "The oozing tumour of one of the labia sometimes produces irritation upon that of the opposite side; but in no other way than any extraneous body similarly situated would do." This troublesome affection is attended by a more or less constant itching of the parts; and also, in some cases, by a sense of preternatural heat. The never-ceasing stillicidium has the effect of sensibly weakening the patient; and as far as experience has yet proved, it should seem that the malady is an incurable one. The remedies suggested by Sir Charles Clarke, for its relief, are bark exhibited internally, and common starch powder, or a mixture of starch powder with sulphate of copper finely levigated, applied by sprinkling to the parts; or a solution of sulphate of copper and nitrat of silver applied in the form of lotion. That writer further recommends a trial to be made of a solution of gum arabic in a decoction of oak bark; and adds that "cold water is also a valuable remedy, and there are no cases in which it will not afford much temporary comfort." Amongst the local applications, the use of which he has suggested, he appears chiefly to rely upon some form or other of alcohol. "Strong new port-wine," he observes, "has afforded great relief; but when this has failed, brandy or arquebusade may be employed, and even alcohol will be useful when the weaker spirits are in no respect beneficial in controlling the discharge." In one case the discharge was so considerable, and the disease altogether so distressing, that Sir Charles Clarke, at the earnest solicitation of the patient, was induced to remove the affected labia with the scalpel. The operation was attended with perfect success. *Observations on the Disease of Females, etc.* vol. ii. p. 127.

OF SCROFULOUS AND OTHER TUMOURS OCCUPYING THE SUBSTANCE OF THE LABIA MAJORA.—Hard and solid tumours of an indolent character may sometimes form within the substance of the labia. Such tumours, when of a scrofulous character, are usually not very painful, even when they proceed to suppuration. Those, however, which are derived from a carcinomatous source, are more distressingly painful. They are indeed to be distinguished from the former principally by that circumstance, but also by their much greater hardness

and more tuberculated character during their scirrhus stage. The former variety of tumour usually terminates in a benignant suppuration, and in an abscess which eventually heals; but the latter, as is well known, is a spontaneous solution of continuity of an extremely malignant character. The former is to be treated on general principles, agreeably to the indications for the treatment of scrofulous abscesses in other parts of the body, whilst the latter is to be disposed of during the earliest stage of its existence by extirpation. Cancer of the labia being in most cases an extension of the disease from the internal genitals, will necessarily receive some further consideration when it shall become the duty of the author to treat of cancer of the uterus. It need scarcely be added, that the labia, in common with almost all the softer structures of the body, are sometimes the seat of fungus hæmatoides. Encysted tumours containing a glairy fluid have occasionally been formed within the substance of the labia. Such tumours have sometimes been treated by puncture. They are however much more effectually removed by being cleanly dissected out.

OF PENDULOUS TUMOURS FROM THE SURFACES OF THE LABIA MAJORA.—These are of different textures, sometimes fleshy, sometimes polypöid and of various degrees of consistence, occasionally steatomatous, and at other times membranous and vesiculated like bunches of grapes. The part of the labium from which the tumours of this class are usually suspended, is its internal surface. In illustration of the pathology of some of them see an interesting case, entitled “*De abscessu muco-carnoso botryöide sinistri labii vulvæ feliciter excisö, Auctore,*” Dr. D. Semuëli Grassio. *Ephemerid. Germanic. dec. iii. an. 7, p. 148. 1699.* See also another equally interesting case in the first decuria of the same work, published in the years 1675, 1676. Excrescent bodies from the labia have generally been successfully removed by extirpation, which has sometimes been effected by a ligature, and at other times by the knife. Immense masses of fleshy and muco-carneous structure have thus from time to time been extirpated by surgical operations, which happily have seldom been attended by any considerable losses of blood.

OF THE CLITORIS AND NYMPHÆ.—The clitoris is a peculiarly sexual organ, very analogous both as to its structure and uses to the male penis. It arises in two columnar cavernous bodies from the inside respectively of the rami of the ischia and pubes. These two bodies meet at the angle of the pubis, and being included within a common covering of a cellulo-membranous texture, they together form the body of the clitoris. The structure of this organ being highly cellular and cavernous, it is considered to be in a great degree if not equally erectile with the penis, and like it susceptible of influences from the passion, the interests of which it is especially intended to subserve. It is invested by a covering which is called its prepuce, and which being produced forms the membranous folds on each side called the nymphæ or labia minora.

The body of the clitoris is tipped at its anterior part by a gland, which is very inferior in size, but is similar in texture, to the glans penis. This glandular part of the clitoris is almost altogether covered in and concealed by its prepuce. The prepuce is precisely of the same texture with the nymphæ, and they are both exceedingly vascular. The entire system of the clitoris is supplied with blood from the internal pubic arteries. These discharge themselves into the cavernous receptacles of the body of the clitoris, and thence they proceed, in common with those of the prepuce and labia minora, to anastomose into the corresponding branches of the pudic veins. The nervous tissues of the clitoris and its productions, are principally supplied from the internal pudics. The clitoris is not, like the penis, perforated by a urethra, the passage from the bladder being situated below and behind it. The principal use of the clitoris, is probably to contribute a large share, and perhaps the greater part, of the gratification which the female derives from sexual intercourse. This important structure and its dependencies have been made to administer to most disgusting abuses, which in Greece were so frequently practised as to have derived their names from the anatomical designation of the part itself. Have these disgusting practices been confined to Greece and Rome? Is it true that certain physicians of a neighbouring country have publicly recommended the use of them as a means of relieving nervous diseases?—*Dict. des Sciences Med.* vol. v. p. 375. And does the scandalous reproach of them apply exclusively to the practitioners of that country?

Fœmina quædam ingenua annos nata 43, admodum in literis politioribus instructa, mortem sororis sibi charissimæ ægerrime ferens ingenti animi languore affectibusque morboris generis nervosi haud paucis usque ad finem anni 1829 erat vexata. Quatenus catamenia sat et constanter effluerant: quo tempore, cum remedium peteret, consultum ibat quendam hominem, medicinæ peritiam turpiter profitentem, et omnino medicorum institutis et scriptis et ægrorum alloquiis. Signis supra dictis, quibus cephalalgia insomnium viscerumque abdominis et thoracis dolores comitabantur, ab ægra rite propositis, respondit medicinæ consultus: MORBUM NON ESSE VENTRICULI, NEC CORDIS, quamvis idem sæpe et violenter palpitabat, NEC OMNINO NERVORUM, SED UTERI, ET SOLIUS UTERI: QUIN AUTEM SE IPSAM, REMEDIIS A SE PROPONENDIS CONFISE DEDERET, CITO IN PRISTINAM SALUTEM REDITURAM. Monebat idem, remedia fore præcipue mechanica. Re in animo ægrotantis aliquot dies perpensa invita proposito cessit. Prima posthac occasione medici manum, minimè decore, puris naturalibus et maxime clitoridi appositam sensit; ideoque utpote perterrita, subito opificis et præsentia et domo abscessit. His injuriis perpetratis secuta est ut fere esse expectandum muci defluxio haud exigua; quamobrem, levamen extitisse quoddam morbi concepit ægra. His et monitis consulti non omnino dubiis confisa, altera jam vice empiricum adibat. Audacior tandem factus ei persuasit ut supina in area conclavis recumberet. Quo facto, in genua ad latus procubuit manumque iterum partibus ante dictis apposuit, easqua in totam

semihoram perfrigit, et usque dum collapsa est in stuporem et omnium rerum prope obliviscentiam. Quum demum animum liquentem revocasset, persuasum sibi habuit ministrum hunc improbum, et animi et corporis defatigatione, se ipsa haud minus, et lascivia esse affectum. Opere hoc ignominioso perfecto abundanter effluxit, ut antea, mucus e vagina; ex quo etiam dolorum, pro tempore, solamen sensit. Posthac, singulis interpositis diebus, per totum pene annum eundem improbum, male dictum medicum, adibat, viribus minime audactis, signis morbi prioribus nequaquam amotis, aliis autem et novis acceptis. Inter hæc, fœmina jamdudum ægritudine vexata, multa admodum ut visum, sinceritate, fratrem de omnibus supra dictis certiore fecit. Cujus viri monitis persuasa Londinum venit, et horum scriptorum auctoris auxilium petiit; cui hæc tanta et prope inaudita facinora patefecit. Examen factum: vulva omnis horribili quadam phlogosi vexabatur: tactui aversabatur et visa nauseam afferebat: perpetuo et profusè effluebat humor blennorrhœus et tanquam purulentus. Sui esse putavit auctor, hymenem, an esset ruptus explorare. Certe fuit intacta adhuc virgo. Remediis quibusdam præscriptis, duos fere menses subjecta in agrum quendam remotum abiit, citum sibi, ut medico suo persuasum esse voluit reditum proponens. Ante decessum tamen remedia bonum ei haud dubium attulerant. Signa medicamentis cedebant: phlogosis externa, cui omnino causæ fuerat turpis iste empiricus J. N. e conspectu evanuerat. Cuivis probè medicinæ incumbenti de his certior fieri volenti sibi privatim apud auctorem satisfacere licebit.

The nymphæ, alæ internæ minores clitoridis, are membrano-carneous bodies which are situated within the genital fissure, consisting of foldings of the integumental tissues of the interior of the vulva. They take their origin from the prepuce of the clitoris, of which they are productions, and descend on each side within the rima pudendi in two flaccid triangular webs until they reach an inferior portion of the vulva, where they usually terminate. In their colour and general appearance they present, as has been supposed, some resemblance to the crest of a cock. They are of very different magnitude in different individuals. In infants and in the fœtal state they are proportionally large. In some adult subjects they are so short as not to project half an inch from the clitoris, and equally small in their other dimensions: whilst in others they exceed in magnitude even the labia majora. Some writers have connected with their greater or smaller volume various degrees of constitutional ardour. Their structure is exceedingly vascular. No tissues of the human fabric can be made to present a thicker web of vascular structure, upon being charged with fine injection, than these carneo-membranous bodies. Like all the softer textures of the body they become wrinkled and flaccid in advanced life; whilst in very old age they occasionally become exceedingly pendulous and elongated. They are supplied with nervous filaments from the internal pudics, and with blood-vessels from the internal pudic arteries and veins.

The nymphæ are subject to most of the diseases incident to the general sur-

faces of the vulva; and being as it were a part and parcel of the structural system of the clitoris, they generally become parties in the results of the greater number of diseases to which that remarkable organ is subject. Among the diseases of the clitoris, one of the principal is a morbid excess of magnitude, of which the most frequent form is that of preternatural elongation. This variety of enlargement is most frequently the consequence of a venereal taint. The only case of a clitoris, very considerable for its magnitude, which has come within the cognizance of the author, did certainly owe its existence to that cause. The subject of it was taken from a public street into one of the sick wards of St. Giles's workhouse, where she died. Her clitoris in a flaccid state was about the size of the male penis in the same condition. On one side it appeared to adhere to the vestibulous surface of the vulva. There was no appearance of a recent venereal affection. Upon cutting into the substance of the clitoris and its corpora cavernosa, no change in their structure could be observed, beyond what might be imputed to simple enlargement from distension. The glans clitoridis appeared, in proportion, larger than the body of the same organ beyond it, as was the body itself larger, in a similar proportion, than its corpora cavernosa. Cases of elongation of the clitoris are numerous recorded. Some of the histories on this subject are so extravagant as to set at defiance the most capacious faith. An entire quarto thickly-printed page of references to cases of monstrous clitorides, are given by a contributor to the accumulation of that sort of treasure in the *Ephemerides Germ.* dec. iii. an. 4, p. 231. The author will here, therefore, content himself with a brief allusion to two or three cases which have occurred in the practice of his contemporaries and countrymen. When the late Dr. John Syms was a student at Edinburgh, there was admitted into the infirmary of that city, a young woman who presented some of the more prominent symptoms of nymphomania. In consequence of certain actions of the patient's, which had reference to the clitoris, and which were observed by some of the junior medical attendants, one of the surgeons of the hospital was requested to institute a professional examination of the condition of that part. On the following day that gentleman reported, that he had found the external genitals generally in a state of great phlogosis, the nymphæ remarkable for their volume, and the clitoris, especially, enormously enlarged. In a consultation of physicians and surgeons subsequently held on the case, it was determined to effect the removal of the greater part of the clitoris by an operation. The amputation was attended with considerable loss of blood; but not so much as to have involved the patient's life in any jeopardy; and the removal of the diseased organ happily proved successful in curing both the local affection and the disordered state of the imagination. The author is not sure whether this case may not have been recorded before; but if it be, he does not know where to refer to it. See another interesting case of extirpation of a morbidly enlarged clitoris, which occurred in the practice of Mr. Richard Simmons, late Surgeon to the British Lying-in Hospital in Brownlow-street. London Medical and

Physical Journal, vol. v. p. 1. "The circumference of the largest part of the stem was five inches, and the length of the tumour nine inches. Its general appearance very smooth and fleshy, and its upper surface was covered with cuticle, which was not redder than the skin in general round the bottom of the tumour. All its under surface was very unequal, being made up of a cluster of swellings of a globular form of different sizes, from those of large grapes, to the smallest. The colour of them was reddish, and they were somewhat transparent and shining, but not inflamed nor painful to the touch." . . . "The reflection which naturally arises from this fact is" (referring to the Mahomedan practice of circumcision), "that there is no hazard in performing the operation at an early period; and the success attending the extirpation of the prodigious one in the case I have related, is a sufficient evidence of the safety of an operation at a more advanced period of the disease." Mr. Simmons discovered that the subject of the above case had a venereal affection when she was about twenty years of age. A case of a successful extirpation of an enlarged clitoris, by M. Krämer, is published by Schmucker in his *Vermischte Chirurgische*, vol. ii. The clitoris in that case had become enlarged by cancerous action. It was covered with carcinomatous excrescences like the vegetations of a cauliflower. The left nymphæ was free from disease; but the right was much indurated. An attempt was first made to remove the affected part by ligature; but that method proved so exceedingly painful that the surgeon found it necessary to have recourse to the knife, with which he effected the complete extirpation both of the clitoris and of the scirrhus portion of the diseased nymphæ. The clitoris did not exceed an inch in length, nor three fingers in breadth. The hæmorrhage was easily suppressed and the cure accomplished without the occurrence of any bad symptoms.

Excessive size of the clitoris has occasionally led parents to mistake the sex of their children; and when extraordinary magnitude of this organ has been accompanied by other unusual circumstances of sexual conformation, added to certain peculiarities of constitutional character, a union of the organs and functions of both sexes in the same individual, constituting hermaphroditism, has often been assumed to have existed. Among the varieties of malconformations which have led to imputations and unfounded conclusions of this kind, it may not be impertinent to our subject to notice one or two of the principal. The first, because the simplest, to be noticed, should be that of excessive volume of the clitoris, either exclusively, or accompanied only by malformations of other parts of a trifling and non-essential character. An example of an assumed case of hermaphroditism of this description was exhibited in London, a few years ago, by a French woman, who called herself *Mademoiselle La Fort*. In the case of that person the clitoris presented very much the appearance of a small penis, but it was not perforated by a urethra. It was capable of a considerable degree of erection, and its subject professed herself competent to cohabit with individuals of the female sex. An imperforate state of the hymen furnished a proof

that she had never cohabited with an individual of the other. The labia majora and nymphæ were of the ordinary size. The orifice of the urethra was situated nearly in its usual locality, immediately behind and below the clitoris. The communication between the vestibulum and the vagina presented the usual appearance of the os externum as it exists in virgins. The aperture through the hymen was of sufficient size to admit of the passage of the catamenial secretion. The person in question had the voice and the conformation of the lower extremities peculiar to a woman, and her bust was distinguished by a sufficient development of the mammæ to warrant her being so classed. The author's good friend Mr. Brookes, the anatomist, proposed to effect an enlargement of the opening into the vagina, but the subject of the malformation refused; calculating, no doubt, that such an operation might have injured the interests of her gainful vocation. A series of drawings, representing the generative organs of Mademoiselle La Fort, are in the possession of Mr. Brookes.

In a pamphlet published at Paris in 1777, entitled "*De Garçon et Fille Hermaphrodites*," we are presented with an example of one of the simplest varieties of malformation. The clitoris in that case also was of sufficient size to emulate the male penis. It was not perforated by a urethra. Marie Auge was brought up by her parents as a female, and by them exhibited both in London and Paris as an interesting example of hermaphroditism. Her neck and haunches presented the usual conformation of a female. The clitoris was situated above the other external parts of generation. The latter however presented no peculiarity of structure, excepting that the vagina was of somewhat less capacity than usual.

In some other cases of malconformation of the female genitals, the excessive magnitude of the clitoris has been accompanied by such preternatural conditions of the adjoining parts as have served much more decidedly to mask the true sex of the parties. Under this head may be especially noticed a case of post-mortem examination by Dr. Schneider, detailed in the 21st vol. p. 97 of the *Dictionnaire des Sciences Medicales*. The body presented the general characters of a female subject; but the genitals were in many respects viciously conformed. Both the external and internal labia were wanting, as was also the usual fissure between those parts. The clitoris was an inch and a half in length, and much resembled a penis. It was tipped with a gland, and covered by a prepuce. There was, moreover, indistinctly to be seen, a small line, or depression at the centre of the gland, which in some degree simulated the orifice of the urethra in the male. The child had always been inclined to indulge in the handling of this part. Some lines below, an aperture was to be traced through which the urine was voided; but which, in some other respects, seemed to have been intended by nature for vaginal purposes; inasmuch as it led directly to the vagina, and was of the usual dimensions of the vagina of a child. It was also observed that its interior was characterized by the ordinary vaginal rugæ. Between this imperfectly developed vagina and the bladder there was a direct

communication by a common aperture. The urine was never voided in jets, nor obediently to the will, but in the form of a constant dribbling from the parts and down the thighs of the little subject.

So great have been the mistakes of sex in cases of imperfect construction of the genitals, that they have not only led to unsuccessful attempts to satisfy the imperfectly understood claims of the sexual passion, but to the disturbance and abrogation of marriage negotiations and contracts. There is now living in this metropolis a person whose sexual organs are so remarkably confused, but whose passions became so far developed, subsequently to the accession of the age of puberty, as to have led to eager but unsuccessful attempts to obtain their gratification. The subject of the extraordinary irregularity of conformation here alluded to, was baptized as a female, and dressed in female clothes; and during the years of childhood and adolescence, she considered herself as belonging to the female sex. Influenced by the movements of the sexual passion, and walking alone on a public road in the outskirts of the town at a late hour in the evening, she sought and obtained an opportunity to retire to a private apartment with a gentleman. The gentleman's anticipations were disappointed, and under a mistaken impression, as to the character and intentions of his companion, committed a furious breach of the peace, of which the consequence to both the parties was their being taken into the custody of the police for the night, and the next morning, to the public office in Bow-street. The explanations there given by the gentleman led eventually to a professional examination into the sex of the other person. The business of this inquiry was referred to a medical gentleman, who communicated its results to one of his intimate friends, through whose influence the author, in the course of some weeks subsequently, succeeded in obtaining an opportunity of examining the sexual conformation of the subject of the present narrative for himself. This interview and inquiry took place in the presence of Mr. Pattison, then professor of anatomy in the University of London, of Dr. Rivere of Weybridge, and of the late Sir Joseph Yorke, together with the author and two other gentlemen. The appearance of the external genitals was as follows: The clitoris, or rather a structure situated in the usual locality of a clitoris, was a little larger than that organ usually is in the adult subject. A tract equal to something more than half an inch of its gland was uncovered by its prepuce; the prepuce itself was attached to the angle of the pubis, and inferiorly to the parts to which it usually adheres. The nymphæ, if with propriety they could be so designated, were but very triflingly developed. Below the root of the clitoridöid body, not indeed visible without raising in some measure that body, was to be seen a small orifice which communicated with the bladder. More inferiorly and posteriorly and precisely at the usual locality of the opening into the vagina, there was a round aperture of scarcely half an inch in diameter. This aperture was surrounded by a carneo-membranous structure of no great thickness, but of considerable firmness and tenacity. It was attempted to pass the finger through this latter opening into a supposed vagina: but such was the

resistance encountered, that it was deemed expedient not to persist. A bougie was accordingly substituted for the finger, and by means of sounding with that instrument it was distinctly ascertained that the aperture in question opened only into a cul-de-sac, which terminated at about the distance of an inch from it. What was the sex of this subject? On each side of the rima pudendi there were two very large pendulous bodies, covered with the ordinary integument, and sparingly sprinkled with hairs, which had considerably the appearance of labia majora. Upon examining into the structural character of these bodies, they were distinctly ascertained to contain fully-developed testes, which communicated, by spermatic chords of the usual bulk and feel, with the abdominal cavity. The mammæ were not developed as they commonly are in the person of a well-formed female. The width of the pelvis and position of the pubic prominence were those proper for a male subject. The voice of this singular being is rough and unmusical, of a counter-tenor pitch; and, taking generally into consideration all the circumstances of the case and all the facts thus briefly sketched, essential and auxiliary to a correct decision, there can be no doubt THAT THE SEX OF ITS SUBJECT IS MASCULINE. A very good cast of the parts just described, modelled from nature by Mr. J. Miller, is to be seen, among the obstetric preparations, in the Anatomical Museum of the University, No. 1481.

A case, illustrative of the same general fact, viz., that of a mistaken sex, was presented to the Society of the Faculty of Medicine of Paris in 1815, and published the same year in the bulletins of that society. The original and truly graphic history of that case was drawn up at some length by Dr. Worbe. The author must content himself with a concise abridgment. On the 19th of January, 1792, the curé of the parish of Bu, in the arrondissement of Dreux, registered the birth of a female child, to whom he himself gave the baptismal name of Marie Marguerite. The child arrived at the age of adolescence before anything occurred to determine the attention of her parents to the subject of her physical conformation. She slept in the same bed with a younger sister. She grew up in the midst of other young people with whom she was associated in her education, and, in common with her companions, enjoyed all the exercises and pleasures of infancy. At the age of puberty, certain organs of her genital system arriving at the completion of their natural development, Marie became the subject of a painful affection of her right groin, and consulted the surgeon of the village upon her case. That gentleman, upon examining the part affected, found a tumour there, in which he recognised an example of inguinal hernia, and treated it unsuccessfully as a case of displaced intestine. After a lapse of some months, the left groin became the seat of a tumour of the same kind. Trusses were applied, which, by their pressure, occasioned more pain than the patient could be induced to sustain. They were therefore laid aside. Marie attained the age of seventeen. She was fair, blooming, and well-conducted: and she received a declaration of attachment from a neighbouring farmer's son. The addresses, however, of that young person were

discouraged on the score of interest. Another establishment offered to her in three years afterwards, which, however, ended in a rupture of the negotiation on the day appointed for signing the marriage settlement. In the mean time Marie advanced in age; but during the same period she experienced a sensible declension and loss of her feminine beauty. Her clothes ceased to fit and to become her. Her gait was observed to be unusual and awkward. Her tastes became altered, and she became more and more masculine every day. The cares of her household and the interests of her poultry-yard obtained less of her attention than formerly, and she preferred the labours of sowing and harrowing to the more gentle pursuits of milking her cows and feeding her chickens. In progress of time, and in consequence of certain statements made by her surgeon, it became a matter of public rumour, that Marie, by reason of certain circumstances professionally known to that gentleman, was not in a situation to be married. This talk did not, however, prevent a third lover from coming forward to declare himself a candidate for her hand; and the marriage was equally desired by both families. Marie's parents, however, recollected, and properly reflected, that their daughter was not made in all respects like other women: they knew also that she had never menstruated. In order therefore not to have to reproach themselves in future, and not to commit an act of injustice towards the son of an old friend, they determined to have the physical conformation of their daughter made the subject of a professional examination. Dr. Worbe was accordingly requested to undertake that duty. Its result, however, was received by the family, and especially by the party who was made personally the subject of it, with extreme disappointment and mortification. Dr. Worbe reported that Marie could not enter into the marriage contract as a woman; for in reality, HE WAS A MAN. After enduring for some months subsequently the manifold anxieties likely to have arisen from so sudden a revolution in his hopes and associations, the truly worthy subject of the present narrative sought a public rectification of his former supposed relationship to his family and to society, and a due recognizance of his newly-acquired rights as a male subject of the state. The legal process by which these objects were attained is a curious document, and is especially worthy of the attention of the student of forensic medicine. *Journal de Médecine Chirurg. et Pharm. pour Janv. et Fevr. 1816.*

There are few examples of malformation of the genital organs that can involve the question of sex, which do not at the same time supply the proper and necessary documents, historical, physiological, and structural, to enable the professional jurisconsult to come satisfactorily and without doubt to a just conclusion. It must always be borne in mind, that there are two sets of organs which are essentially, and more than any others, the characteristic distinctions of each sex. It has very rarely happened that an organ, or a system of organs, essentially the attribute of one sex, has been found within the body, or forming a part of the genital apparatus of the other: and when examples of such

monstrosities have presented themselves, the parasite viscera have never been known to have conferred upon their unfortunate subjects an extension of power in the economy of reproduction; nor even, as far as the author knows, co-existed with the efficient possession of the reproductive faculty, as it naturally inheres in either sex. The case of Humbert Jean Pierre, as communicated by M. Maret to the Academy of Dijon, and published in the second volume of the Memoirs of that Society, is probably the best attested example on record, of a considerable admixture of the genital organs of both sexes co-existing in the same individual. Pierre died at a public hospital, in 1767, at the age of seventeen. M. Maret had the opportunity of a very minute post-mortem examination. The upper part of the subject presented the attributes chiefly of a female figure. The features of the face were delicate and feminine. The skin was soft. There was no young beard on the upper lip and chin, nor was there prominence of the pomum adami. The mammæ were well evolved and advantageously seated on the chest, with nipples of good size surrounded with well-painted areolæ. The arms were delicate and finely rounded, like those of a woman; and, in short, the entire bust was that of a female. From the waist downwards, we are informed, that independent of the genital organs, the general conformation presented more decidedly the characters of that of a male. The external genitals exhibited great confusion. To the symphysis pubis there was attached a cylindrical body, which had all the appearance of a penis; it was tipped by a gland, and covered over by a prepuce. At its extremity there was a depression or fossula, which presented something of resemblance to the orifice of a urethra; but there was no real opening there. On raising this body there came into view two pendulous duplicatures of integumental structure, which greatly resembled labia majora. In the left there was found a softish oval body similar to a testis; whilst in the right nothing could be felt beyond an empty pouch: but upon applying pressure to the inferior part of the abdomen, an ovöid substance could be pushed down into it, as also by pressure applied below, from it upwards into the abdominal cavity. From the root of what had the appearance of a regularly-constructed frænum of the imperforate penis, there were suspended two crested cuticular spongy bodies, like labia minora. Between these nymphæ there was the orifice of a urethra, which had the usual character of that aperture as it is seen in the female. At a little distance posteriorly, another small opening presented itself to view, having a diameter of about two lines, though bounded in its dimensions posteriorly by a semilunar membrane that stretched across it from side to side, which bore a striking resemblance to a hymen. This aperture was bordered by small excrescent caruncles, which suggested the idea of carunculæ myrtiformes. In this extraordinary case, the reader will observe a remarkable commixture of the external genitals peculiar to either sex; and it would appear rather difficult to say which predominated. The glandulated organ was in magnitude more like a penis; but in not being perforated, it bore the charac-

teristic conformation of a clitoris. Then we have nymphæ and an orifice into a urethra, and another into a supposed vagina, similar to those of the ordinary construction in women. On the other hand the lateral structures which formed the lobulated parietes of the genital fissure, and which at first were very naturally assumed to be labia majora, were found to contain bodies which gave the feel of testes. But dissection discovered and established the fact of a still more extended commixture of the sexual organs of each sex in the person of Pierre. On an incision being made into the left labium, a real testis, suspended by a spermatic chord of the usual structure, was observed to be contained within it. The other, when opened, presented as its principal contents a membranous pouch or cyst which was felt to contain a fluid. It was subsequently discovered, that the body which had been forced down into the right labium by pressure applied to the hypogastrium, was really an ovary. On making an incision through the semilunar membrane already described, into what had been supposed to be the vagina, it was discovered that the aperture only led to a roundish hollow or canal, of about an inch in depth, and situated between the rectum and the bladder. The interior of this cyst was smooth, as if lined with a soft mucous membrane, and not at all rugose like that of an ordinarily constructed vagina: but at its inferior part, it should be noticed, there was most distinctly developed the characteristic structure of a true verumontanum, and of seminal orifices, from which by pressure A FLUID, BEARING A PERFECT RESEMBLANCE TO SEMINAL FLUID, was seen to issue. Guided by the vasa deferentia, the anatomist was led to an imperfect system of vesiculæ seminales. The left vesicula seminalis, at which terminated a proper vas deferens, was indeed full of semen masculinum, which upon moderate pressure being applied to the duct, was easily forced to traverse along it so as to make its appearance on the verumontanum. The right vesicula seminalis appeared somewhat shrivelled, and it communicated with the left; from this vesicula there could also be seen to proceed a vas deferens, which, however, lost itself in adipose structure, and was not produced to any part which had a glandular character; and it became gradually smaller as it receded from its vesicula. This fact led to a doubt as to the true character of the ovöid body, which had been forced into the right labium by pressure applied to the hypogastrium, and which had been taken for a testis. That body, the natural situation of which was the right iliac fossa, was a mere oblong tumour imbedded in the cellular tissue which covers the broad part of the iliac muscle. On further dissection, a cyst or pouch was brought into view, which was found really to communicate with the right labium, as had been already suspected. Upon making an opening into this cyst, it was found to contain a glassful of very thin fluid of the colour of the lees of red wine. This fluid being removed, there came into view a firm body, having the figure and colour of a horse chesnut, a little rounded, of which the longer diameter was about an inch and a half, and the shorter about an inch. The figure, colour, and structure of this remarkable body

astonished all present. They were however still more surprised when they found that from its upper part on the right side there set out from it a TRUE FALLOPIAN TUBE, which after changing its direction at about the distance of two lines from its origin, proceeded to embrace by its fimbriated pavilion, an ovary which was placed almost in juxta-position, and connected with the body already described by a species of ligament. This ovary was of the consistence, colour, figure, and volume of an ordinary ovary. Dissection proved that the small round and flattened body, of which this ovary and its annexed Fallopian tube were appendages, WAS REALLY A UTERUS. In its centre there was a cavity of between four and five lines in length, and of between two and three lines in breadth. From this cavity, air was made to pass into the Fallopian tube: but no other opening out of it could be discovered. The uterine body had therefore no communication with the external genitals.

In this remarkable example of malformation, amounting, as in fact it did, to a degree of monstrosity, there was an obvious and nearly an equal commixture of the organs of each sex. We have the clitoritöid body, the circumstance which more especially brings the subject of the case under present consideration, of sufficient magnitude to emulate the male penis: but it was imperforate at its glandular extremity, and it had no communication with the vesiculæ seminales; and therefore, for both reasons, it was obviously incompetent to perform efficiently the sexual functions of the male organ. On the other hand, although there existed a uterus, together with a moiety at least of its ordinary lateral appendages, it is manifest that for want of a natural passage through its cervix, added to the want of a vagina, with which it might have communicated had it existed, that organ never could have been impregnated. M. Maret was not successful in his inquiries respecting the predominant sexual affections or passions of the subject of the present narrative. All that he was able to learn was, that Pierre was passionately fond of dancing, and that he was never seen to exhibit any fondness for the sex, nor to indulge in any playful and innocent personal liberties, as by salutations or caresses, with the young women with whom he had resided.

OF SOME OF THE PRINCIPAL DISEASES OF THE SURFACES OF THE EXTERNAL GENITALS.—Among the diseases incident to the surfaces of the external genitals, there are, first, those which derive their origin from venereal impurities; and, secondly, those which are derived from sources totally unconnected with the exercise of the sexual passion. Of the former, a certain proportion are the results of a direct application of syphilitic virus, and the remainder the effects of divers other poisons less known and understood, but for the most part communicated by the same means. Those of the second class, are usually accompaniments and results of certain constitutional diatheses, or of morbid conditions of remote organs, and most frequently and immediately of peculiar states of irritation of the internal genitals. It was once the intention

of the author not to treat of any form of venereal affections of the genitals in this work; but influenced by the representations of a friend, for whose judgment he entertains great respect, and to whose kindness he is indebted for some valuable contributory hints towards the composition of the present article, he has been induced so far to alter his plan, as to undertake, very succinctly and with especial reference to practice, to notice some of the principal forms of the diseased conditions in question as they usually present themselves in this country. He proposes accordingly to bring before the consideration of his readers such portions of the entire subject as he thinks it may be most useful to treat of under the several divisions: 1st. Of inflammations or other states of the genital surfaces, accompanied by discharges. 2dly. Of warty and other fungoid excrescences from the affected surfaces; and, 3dly, Of ulcerations of the same tissues.

The most important variety of inflammation of the external genitals of the female, is that which is accompanied by the muco-purulent discharge, which in this country is well known by its most common designation of VIRULENT GONORRHEA. The subject structures of this inflammation are those surfaces of the genital sinus, which are devoid of the coarser covering of common epidermis, and which, by reason of their being invested by an integument so delicate and transparent as to permit the colour of the blood to be easily seen through it, have been called red surfaces. These are therefore the internal surfaces of the labia, those of the clitoris and its productions the labia minora, and in short, those of the whole of the vestibulum as far as the orifice of the vagina. But the inflammation which constitutes the entire gonorrheal affection of the female genitals is not confined to the surfaces already enumerated; but makes its way through the os externum, and ascends along the mucous lining of the vagina, so as to occupy in many cases the whole of the interior surface of that passage. The gonorrheal inflammation is almost always attended, at its onset, with a distressing pruritus and a pungent sense of heat of the entire vulva, with considerable tumefaction of the interior surfaces of the labia majora, with much thickening of the prepuce of the clitoris, as also of its productions the labia minora, and with an acutely intense pain of the carunculous structures forming the parietes of the vaginal orifice. The orifice of the urethra being unavoidably a party in the general phlogosis, ardor urinæ is to be noticed as one of the earliest symptoms of the complaint. When the pain and inflammation extend to the posterior commissure, and especially to the perineum, sitting becomes a painful position: whilst in all cases of recent inflammation, accompanied with much painful swelling of the labia and nymphæ, the action of walking is attended with extreme inconvenience. In a large proportion of cases, these local affections are sufficient to produce considerable constitutional excitement; acute pains about the hypogastric and lumbar regions; sickness, vomitings, and other disturbances of the gastric functions. To these formidable symptoms sometimes succeed painful enlargements of the inguinal

glands. When the constitutional symptoms run inordinately high, it has been generally observed that not only the mucous membrane of the parts primarily affected is become a subject of active inflammation; but that this inflammation extends to the subjacent cellular structure, occasioning in many cases deep-seated ulcerations in it. More frequently, however, the ulcers thus produced are very small, and are generally situated so high up in the vagina that they can with difficulty be detected without the use of a speculum; when however the use of such instrument can scarcely, in her peculiar circumstances, be tolerated by the patient. The degree of violence of the symptoms is necessarily proportional to the constitutional irritability of the patient, to the nature of the tissues and actual condition of the parts affected, and to the good or bad management of the case by the medical practitioner.

The consequences of a gonorrheal affection in women are infinitely less formidable and dangerous than they usually are in men. The urinary passage in the female, with the exception of its mere orifice, being beyond the reach of infection on the first application of the virus, and being seldom known, with the same exception, to become the seat of inflammation by propagation, women are never known to be affected by strictures of the urethra, and very rarely by obstinate retentions of urine: symptoms which in men are often attended with extreme distress and danger. Retention of urine in the female can always be speedily and effectually relieved by means of the catheter. But women, in common with men, though certainly less frequently, are nevertheless liable to the terrible ophthalmia, which is known sometimes to supervene upon a sudden suppression of a gonorrheal discharge. Women, moreover, are more liable to become the subjects of excoriation of the affected surfaces, and consequently of bubos, and still more of constitutional syphilis, from the more extended exposure in them of the absorbents of the affected parts to the specific virus of the disease. It should here also be specially observed, that women are liable to muco-purulent discharges from the vagina, from a variety of causes peculiar to their sex; causes indeed, in the greater number of instances, perfectly remote from impure sexual intercourse. In many such cases it has been found so difficult to establish a satisfactory diagnosis between them and venereal gleans, that the aid of circumstantial evidence has been sought to balance the doubtful conclusion. See the excellent work of Dr. Swiedeaure on this subject, vol. i. p. 146. Many of the discharges of females placed by that estimable writer in juxtaposition to venereal gleans, will come more properly to be noticed in another part of the present work, when it shall become our duty more particularly to treat of leucorrhœa, and of the diseases of the uterus and the vagina complicated with ulcerations. Suffice it for the present to urge upon the practitioner's attention, the importance of the utmost caution in the formation and communication of our prognoses on these subjects; since by the neglect of such caution, we might compromise for ever the domestic happiness of the most virtuous of women.

The treatment of gonorrhea is attended with much less difficulty in women

than in men. It has already been observed, that the female urethra never becomes the seat of gonorrheal inflammation, excepting at its orificial extremity. We are therefore never afraid of occasioning retention of urine by the use of any topicals which we may think it necessary to use in order to subdue the inflammation of the affected surfaces.

The first stage of a virulent gonorrhea should, in most cases, be treated by ample general bleeding, which will often have great effect in subduing the violence of the local inflammation. The patient should be advised frequently to bathe the surfaces of all the parts within the sinus of the vulva, and to inject those of the vagina with warm water. Warm water might indeed be applied with great effect to the same surfaces by means of a warm hip-bath, repeated three or four times a day. This treatment will have the effects of soothing the irritability, and of moderating the inflammation of the parts, as well as that of diminishing at the same time, by dilution, the acrimony of the morbid virus. During the intervals between these bathings and ablutions, the parts affected should be treated by such lotions or other forms of topicals as have been approved of by the best surgeons. The several indications of treatment should have for their object the speediest possible subduction of the acute stage of the inflammation; the earliest and the most complete removal, if practicable, of the infecting virus; the dilution and removal also of the morbid secretion, generated by its poisonous influence. To subdue the violence of the first stage of the inflammation, bleeding, as has been already suggested, is our most powerful agent. Amongst the topical applications which have been found most useful towards the attainment of the more local indications, one of the best is a lotion, which was first introduced into practice by Dr. George Fordyce, consisting of between half a grain and a grain of oxymuriate of mercury dissolved in a pint of distilled water. The application of this lotion to the infected parts, and to all the surfaces liable to become implicated by the rapid propagation of the morbid action, should be made immediately upon the first symptoms of the disease being recognised. Sometimes lime-water has been used with great advantage. At other times an acetate of lead injection, in the proportion of a drachm or a drachm and a half of the salt to a pint of distilled water, with or without the addition of about a drachm of the tincture of opium. Solution of alum, of the sulphats of zinc and of copper, and infusions of galls and of gum kino, with additions of opium and camphor, in various forms, have likewise been employed with a view to the attainment of the same objects. When the vaginal symptoms have been more than ordinarily violent, soothing injections, made with mucilages and bland vegetables, have been strongly recommended: whilst at other times, and in cases of equal violence, the yellow or phagedenic wash, made with thirty grains of oxymuriat of mercury and two pints of lime-water, with or without the addition of spirits of wine. In most cases of a gonorrheal affection in the female, when the symptoms run high, the local application of opium is recognised as one of our most

efficacious remedies. It is found indeed to be possessed of very great power, both in relieving the irritation and abridging the duration of the complaint.

In order to secure the good effects of lotions and injections as the means of meeting one of the more important indications to be attained by our treatment of gonorrheal affections, viz. that of cutting short, or at least of greatly abridging the duration of the disease, they should be used as early as possible after the application of the morbid virus, and subsequently with great frequency, six or eight times a day, during the first stages of the complaint. In the intervals of injections into the vagina, the same fluids may be kept in constant application to the pudendum by pledgets of lint soaked in them, and well fitted to the surfaces of the part. Small sponges may also be introduced into the vagina in cases of more than usual inflammation of its surfaces. The introduction of such pessaries may be made comparatively easy by compressing them into a small bulk within the grasp of a pair of stone or polypus forceps. In that case the sponge should be charged, AFTER its introduction, with the proper fluid, by means of a toy teapot or a syringe; the patient in the mean time being placed in a recumbent position.

After the subsidence or considerable abatement of the high-toned inflammatory action incident to the earlier stages of the disease, it will often be found convenient in many cases to substitute for the above lotions and injections the use of one of the simpler forms of a mercurial ointment. The common mercurial ointment, for example, may be had recourse to with great advantage: or a very good ointment to meet the same indication may be made with the grey oxyd of mercury and mutton fat well clarified and free from rancidity. The proportions of these ingredients should be a drachm of the former to six ounces of the latter, with the addition of about three ounces of the finest olive oil. An excellent ointment for the same purposes may be made with a drachm of the submuriat of mercury and an ounce of the common cerate, incorporated with a small quantity of an aqueous extract of opium. Any of these unguents may be introduced into the vagina, in small portions of about the size of a nut, twice a day. Each pellet should be passed up as high as possible, in order to ensure the application of some portion of the remedy to every part of the affected surface. A very efficient mode of attaining this object would be to dress a longish piece of very fine sponge with a thick coating of the ointment intended to be used, and to pass it into the vagina, as advised in a former case, by means of a pair of small polypus forceps. The surfaces of the external genitals should be dressed with the same ointment spread upon lint. The external dressings should be changed twice a day, and the sponge introduced into the vagina at least once.

It is not within the immediate province of the author to go into the controversy respecting the identity of the virus of gonorrhea with that of syphilis. Inasmuch, however, as frequent examples of ulcerations in the throat, and other symptoms of a truly constitutional syphilis, referred by the patients or their

friends to antecedent gonorrheal affections, have come within the range of his own professional observation and experience, he feels it his duty to add, more especially for the information of the younger part of the profession, that, in his own opinion, an opinion formed after much deliberation, no absolute protection against the supervention of constitutional syphilis can be insured to a subject of venereal gonorrhea without the use of mercurial remedies, exhibited both externally and internally: externally to destroy the local virus, and to effect a radical cure of the local symptoms; and internally to destroy the syphilitic poison conveyed into the mass of blood, as he verily believes it not unfrequently is, by the action of the absorbents of the parts originally infected, or subsequently ulcerated in consequence of severe gonorrheal inflammation.

OF VENEREAL WARTS AND FUNGÖID EXCRESCENCES OF THE EXTERNAL GENITALS.—Warty excrescences of the external genitals of the female are most frequently ascribed in modern times to syphilitic, or at all events to venereal impurities. To the educated reader it is well known that the syphilis of modern times has no place in the nosology of the ancient physicians of Greece and Rome; whilst it is a fact with which few can be supposed to be unacquainted, that the great pox or syphilis of the present day first appeared in Europe during the latter part of the fifteenth century. The ancient writers of Greece and Rome, as well as their professional descendants the Arabians, have however left us some formidable descriptions of ulcerations and fungoid diseases of the external genitals of both sexes. It hence follows that many of the local affections of the generative organs in modern times presenting the ordinary appearances of diseased conditions, derived even from venereal and possibly indirectly from syphilitic sources, may nevertheless be the effects of other causes of irritation. Such indeed we know to be in many cases the absolute fact. The fungoid tumours which usually grow from the external genitals, whether in consequence of venereal impurities or of other causes, are generally simple in their character, and, for the most part, easily curable by topical remedies. At other times, and more especially when they derive their origin from constitutional syphilis, or are complicated with a local affection imputable to the same source, their proper treatment will require, in addition to the most judicious topical management, the exhibition of a full charge of mercury, administered internally.

Of the tumours to be noticed under the present head of subject, there are several distinct varieties. There is first, and one of the principal, *THE VER-RUCA* or thymion of Celsus. This is a true warty excrescence, similar to the warts which usually appear on the hand, excepting that they often project from their parent surface by a peduncle of much less diameter than the body of the wart itself. To the smaller ones, this part of the description does not indeed usually apply; inasmuch as when they are of minute size, they are nearly of equal diameter at every part. They are generally disposed on the affected surfaces in groups consisting of one or two large ones, with many smaller ones immedi-

ately surrounding them. When large, they become fissured on the top; and then they are apt to bleed more or less profusely. 2. Differing in some degree from the warts just described, there is a variety of a fungoid excrescence of the same family which is called sycoma or sycosis, because fancied to resemble a fig both in size and figure. When similar in form and general appearance to a mulberry, and when several such tumours are clustered together into groups, the entire excrescence is called a cauliflower, from its obvious resemblance to the vegetable production of that name. Some of the above warty excrescences have occasionally been seen to infest the anus of children of both sexes. In the greater number therefore of such cases it is obvious that the occasional cause must have for its source a different acrimony from that of syphilis. 3. Another fungous excrescence from the pudendum and its neighbourhood is the condyloma. This also infests the anus of both sexes; and especially that part of the FEMALE, more frequently than the labia pudendi, the vestibulum, or the orifice of the vagina. This tumour is sometimes hard and harsh to the feel, whilst at other times it is soft and spongy. In all cases it is more or less irregular as to the elevation of its different points of surface. Moreover, tumours of this variety are very different as to their magnitude in different cases. When very large, they are generally found moistened with an oozing of a foetid ichorous humour. Another variety of condylomatous excrescences is one consisting of clusters of bulbous transparent projections, bunched together after the manner of grapes, and connected to the parent surface by a common stem. The proximate cause of warty tumours seems to be an inflammation, in the first instance, of minute portions of the integumental and cellular structures about to become affected by the disease. The parts thus stimulated by the action of inflammation, sustain a gradual extension of the proper substance of the tissues from which they take their origin. Any circumstance or accident competent to produce local irritation, such as acrimonies of any kind, blows, friction, gonorrheal virus, the specific poison of syphilis, any morbid discharges from the uterus, and every description of venereal impurity, may operate as an occasional cause. The indications of treatment must be founded on the special properties and presumed source of the individual case to be treated. Some varieties of them were removed by the ancients by the actual cautery; others by the potential cautery or escharotics, and others by ligatures and abscision. All those methods are still occasionally employed, with the exception of the actual cautery. The local applications principally employed by modern practitioners to produce an escharotic effect, are the nitrat of silver, the liquid nitrat of mercury, and the oxymuriat of mercury. Some of the simpler forms of warty tumours are said to disappear in consequence of frequent ablution with cold water, or of affusion of them with lime-water mixed with a small proportion of tincture of myrrh. The powder of savin leaves, either by itself or mixed with burnt alum or with one of the oxyds of iron, is considered a very efficacious remedy, as well as one of the most frequently-employed applications in mo-

dern practice. Dr. Swediaur states that he used, with great success, a composition recommended by Plenck, which he called liquor ad condylomata, consisting of alcohol and acetic acid, of each half an ounce, a drachm each of sulphat of alum, camphor, and oxymuriat of mercury, and of half a drachm of carbonat of lead. This composition is to be applied to the warty excrescences, by means of a hair pencil, two or three times a day. In cases of tumours of this class, known or suspected to have been derived from a syphilitic source, the exhibition of mercury internally is to be considered as an essential item in the treatment. In obstinate cases from that source, mercurial fumigations have been had recourse to with excellent effects. Some varieties of the cauliflower excrescence are conveniently removed by separating their bulbs from each other, and then extirpating them singly by means of a ligature applied to their peduncular shafts or roots. In other cases they have been removed by abscision with the scalpel or scissors. Fungöid tumours of a firm consistence, after having been softened by mercurial ointment or by fomentations with emollient herbs, have been treated by caustics and astringents. In obstinate cases, from whatever source derived, it will be found expedient to have recourse to the internal use of mercury.

OF SORES AND ULCERS OF THE EXTERNAL GENITALS.—Of the several varieties of ulcers by which the external genitals of the female are liable to be affected, in consequence of impure sexual intercourse, the specific sore called chancre is the most common. The poisonous virus productive of this form of ulcer is usually applied to the internal surfaces of the pudendum; viz. to those of the labia majora, the clitoris and of its prepuce, and of the nymphæ; to the orifice of the urethra, to both sides of the vestibulum, to those of the fourchette, and to the parts forming the orifice of the vagina; to all the internal surface of the vagina itself, and to the vaginal portion of the uterus. Thus the primary ulcers of syphilis are most frequently affections of the red and moist surfaces of the genitals, which are only covered with epithelium, a pellicular integument of such delicacy and transparency, that it permits the colour of the blood to be seen through it, which of course must peculiarly expose the surfaces which it invests to all the injurious influences incident to the reception and action of morbid poisons. The coarser and laminated epidermis, it is obvious, cannot fail to act as a protection against the reception of the syphilitic virus; and hence those parts of the body which are covered with that substance are seldom affected by the disease. Practical writers are however agreed, that parts so covered may occasionally become the subjects of it in the event of the poison being allowed to remain in contact with them for a great length of time. Deprived of their proper protection by wounds and abrasions, those parts are as susceptible of the action of morbid poisons as any other; and they are known to absorb such poisons with great rapidity; while experience too certainly proves that the disease consequent upon an infection so received has generally been one of

more than ordinary obstinacy and danger. A country gentleman, during his first visit to the metropolis, became the subject of a small pustular sore of one of the fingers of his right hand. Upon his return to the country, he took the advice of his surgeon, who recognised the character of the sore, and lost no time in having recourse to the specific remedy. The unlucky patient was, however, the subject of a syphilitic affection for several years afterwards. A talented general practitioner, intimately known to the author, had the index finger of his right hand infected, by its exposure to the action of a specific virus during an obstetric attendance upon the wife of a recruiting military officer. He became the victim of a syphilitic affection of extreme obstinacy. It is a fact well known to those practitioners in midwifery who are professionally attached to the lying-in establishments of the metropolis, that the midwives under their direction become occasionally the subjects of syphilis in its worst forms. Since the author has had the honour of being physician to the MATERNITY CHARITY for delivering poor married women at their own habitations, not fewer than five cases of this description have occurred in its practice. In two of them, the disease proved fatal. One is at present under treatment. It is a matter of professional history, that Dr. Macaulay, an eminent obstetric physician in London, during the middle and latter part of the last century, was the subject of a most obstinate syphilitic affection. During the latter years of his life it had the effect of greatly impairing his health, though there is much reason to believe that his case was treated with the utmost skill. He died uncured. Exceedingly susceptible of the action of morbid poisons, as the red surfaces of the external genitals are known to be, it is nevertheless the fact, that the mucous surfaces of the urethra in the male, and of those of both the urethra and the vagina in the female, are seldom the subjects of ulceration. The surfaces in question are supposed to be, in a great measure, protected from the action of the morbid virus, and the virus itself to be diluted and rendered less acrimonious by the abundance of mucus with which they are lined.

Since pathologists of great accuracy and eminence have determined their attention to the investigation of syphilitic affections, it has been well ascertained that the generative organs are liable to numerous varieties of ulcerations not truly syphilitic, though nevertheless attributable to impure sexual intercourse. The diagnosis therefore of ulcers truly syphilitic has been sought with the greatest care, but not as yet with the most absolute success: inasmuch as there are points still wanting to its perfect and universally-accepted establishment. Syphilitic ulcers are considered to be best distinguished by the peculiar characters of their edges and base; the former being hard, callous, slightly raised, and surrounded by a rather intense redness of the surface not ulcerated immediately contiguous. The base of a chancreous ulcer presents the appearance of being covered with a coating of a lardaceous greyish mucus. The ulcer itself has a great tendency to spread, and therefore to involve in further destruction the tissues which it invades. But the circum-

stance which serves peculiarly and most constantly to distinguish the syphilitic ulcer from all others, is a certain thickening and induration of the parts attacked, and of those immediately about to become the subjects of further ulceration, which, almost without exception, attends it. When ulcers of the genital surfaces are the effects of herpes, scurvy, excessive use of mercury, and of other causes not syphilitic, they may generally be distinguished from those truly syphilitic, by their different appearances, by their more stationary character as to extension, in some cases by their non-extension into deeper structure when they are disposed to spread; by their first appearing or exasperation during the use of mercury, by their disappearance by means simply of cleanliness and without the assistance of art, and especially without the use of mercury, by their being treated by the use of mercury without success, by their occasionally exquisite sensibility, and by their being accompanied by symptoms peculiarly characteristic of other diseases, whether of the parts themselves, or of other and distant parts of the body. The syphilitic ulcer usually manifests itself on the second or third day after an impure intercourse; but in some cases the symptoms of the infection have shown themselves within twelve or fifteen hours subsequently, whilst in others no morbid appearance has been observable for many days. In the case of chancres on the red and moist surfaces of the external genitals, the disease usually begins with a slight pruritus of the infected surface. The part about to become the seat of the chancre will be found on examination to be in a state of considerable efflorescence, presenting at or near its centre a minute transparent vesicular pustule. By the friction which is usually applied during the progress of the diseased action, the epithelium of the part becomes ruptured, and the characteristic ulcer is formed.

When a primary syphilitic ulcer is formed on a part of the body covered with dry epidermis, e.g. on the thighs or nates, or accidentally on the finger, it is usually observed to assume the form of a round, hard, and duskyish red pustule, which inflames slowly, and which, after ulcerating, discharges a clear ichorous fluid. The sore thus produced, presents an appearance and is attended by symptoms strikingly like those of the inflammation, when purely local, which supervenes upon wounding a finger during dissection. It has been already stated that this variety of syphilitic ulceration is especially obstinate and dangerous.

The diagnosis between syphilitic ulcers and other ulcerous affections of the female genitals, is a subject of extreme importance both to the credit of the medical attendant and to the peace of families. As the vaginal surfaces are subject to inflammatory affections and muco-purulent discharges, produced by other causes than any form of syphilis; so are the red surfaces of the external genitals liable to several varieties of ulcerations, perfectly independent in their origin of any application of syphilitic poison. It is well known that female infants, and children of tender age, the offspring of parents totally free from the contamination of constitutional syphilis, are occasionally the subjects of leucorrhœal and muco-purulent discharges from the vagina very similar in their

appearance, and accompanied by similar states of irritation of their secreting surfaces, as are usually observed in cases of virulent gonorrhea resulting from venereal impurities. It is moreover well known that children similarly situated as to freedom even from a taint of syphilis, are not unfrequently the subjects of ulcerations of their external genitals, which, under other circumstances, might be liable to great suspicion. It happened, during an early period of the author's life, in a Welsh county town, that a child of about eight years of age, of low connexions, and of mendacious habits, was induced to prefer against a respectable minister of religion an accusation of an attempt made on his part to violate her person. It was averred, on the part of her friends, that she became the subject of ulcerations of the pudendum in consequence of the imputed assault. The gentleman was committed to prison, and suffered an ignominious incarceration for many weeks. The grand jury ignored the bill, on the ground that the prisoner had proved himself totally free from the disease which he had been accused of communicating; a conclusion supported by other considerations of a moral and circumstantial nature, which left no doubt on the minds of the inquest of the perfect innocence of the accused. The ulcerations on the child's pudendum were proved not to have been derived from a venereal source. The older members of an estimable and popular class of religionists in the principality will recognise the authenticity of this narrative, on being informed that the name of the accused was P—f—t.

It has happened to the author, rather recently, to have been consulted in three cases of children, between the ages of three and seven years, for a profuse mucopurulent discharge from the vagina; which, in one of the cases, was accompanied by extensive ulcerations of the vestibulous surfaces, and those of the posterior fourchette of the pudendum. All the children presented the usual indications of scrofulous constitutions; whilst their mother had been for years the subject of a severe tettery eruption. Cases are occasionally presented at hospitals of distressing ulcerations of the pudendal surfaces of female children, which the medical officers of such institutions never think of treating by mercury. Married ladies, affected by non-syphilitic diseases of the genital organs, have been known to communicate disorders of the same kind to their husbands. An interesting case of this description is reported at considerable length by Swediaur. The obvious inference from all these facts and considerations is, a due appreciation of the duty and necessity of observing the greatest possible caution, both in the formation and communication of our diagnosis on subjects of this kind, involving, as they often do, questions of the most delicate and serious nature.

In deliberating upon the subject of syphilitic ulcers of the pudendal surfaces of the female, the practitioner should take into his consideration their precise nature and stage of progress; the period of their duration; the singleness of their character as primary affections, or their complication with intumescences of glandular or of other structures in the neighbourhood, or with states or symptoms of any other kind, which might indicate the existence of a malady already

become constitutional; the remedies, together with the kinds and varieties of forms of remedies employed during any previous treatment; the habits of the patient, her mode of life, diet, regimen, moral character; and her character generally as to her physical temperament. Some modern surgeons have maintained that the simple syphilitic ulcer, usually called chancre, may be cured without the use of mercury. At the conclusion of the late war, indeed, it had become the practice of a great number of military surgeons to treat primary venereal ulcers on this principle. In Spain and Portugal it is stated that the disease really does yield, in the greater number of cases, to remedies containing no mercury, and to the ultimate influence of time; and the English military surgeons were so far influenced by the results of the practice adopted in the brigades of their Spanish brethren in arms, as to be induced to give it the benefit of a full trial on their own countrymen. Since that period the trial in question has accordingly been made on an ample scale. From what the author has been able to collect of the results obtained, he has been led to presume that they have not been so satisfactory as could have been wished: and he moreover understands, that it is the prevailing opinion of English surgeons at the present day, that no variety nor form of a truly syphilitic affection can be certainly and radically cured without mercury. The author has, indeed, himself met with numerous examples of secondary symptoms which had supervened upon the adoption of the non-mercurial treatment of chancres, and especially of copper-coloured spots and other unequivocal indications of constitutional syphilis, exhibited by infants of a few weeks old, children procreated by old soldiers and others who had been some years anteriorly the subjects of treatment for chancres without the use of mercury. In one case he has recently had the opportunity of observing that the mother of two children, each of whom presented the symptoms of a constitutional infection soon after its birth, bore to a second husband a child that was perfectly uncontaminated by any virus of constitutional syphilis, the mother in the mean time continuing to enjoy, as indeed she had always enjoyed during her former marriage, an excellent state of health. Upon the whole, therefore, he is of opinion that all ulcerations truly syphilitic, as well as all forms of secondary symptoms incident to the malady, should be treated by mercury; exhibited, however, in such preparations and quantities as the several varieties of the disease might seem to indicate. Some authors have recommended the earliest possible removal of chancres with lunar caustic. This proceeding, however, does not appear to have received the sanction of the majority of well-informed practitioners; whilst, indeed, there are several important objections to be made to its indiscriminate adoption. If, for example, too large a quantity of the salt be applied, it may have the effect of corroding its way too deeply into the subjacent structure of the part, and thereby inflict a wound of a much more dangerous character than that of the chancre itself. There are, moreover, some constitutions so irritable, or otherwise so peculiar, that they cannot bear the action of escharotics on any part of their surfaces. It also sometimes happens that

the use of caustics is followed by very painful swellings of the inguinal glands; such swellings, indeed, as have terminated in extensive ulcerations.

One class of practitioners have advised all cases of true syphilis, whether primary or secondary, to be submitted to one common treatment; viz. that by a course of mercury internally administered, without regard to any kind, or rather omitting all kinds, of local application. In favour of that summary mode of treatment, it has been alleged that chancres, in common with all other indications of the presence of the disease, are to be considered as so many proofs of the virus having been absorbed into the mass of blood; and that their evanescence or disappearance in consequence of the internal use of mercury, affords sufficient evidence of a constitutional effect having been produced by the action of the remedy. This theory is now become somewhat antiquated; and it is at present the general opinion of the best-informed practitioners, that recent syphilitic ulcers are universally the results of a primary infection, and therefore not in fact indications of a constitutional disease. The inference naturally deducible from these premises is, that a disease exclusively local, as a recent chancre, the result of a primary affection, is assumed to be, should be treated at least principally by local applications; but in the event of the earlier stages of the local complaint having been neglected, and of the disease having been suffered to encroach extensively on the subjacent structures, that then it should be submitted to the usual treatment considered necessary for cases of an acknowledged constitutional malady. It is believed by some, that sudden intumescences of the inguinal glands are not results, simply and in all cases, of sympathy of those organs with certain states of irritation of chancres, and therefore that it would be much safer, as a general rule, to consider them as proofs of a constitutional infection. The truth of this assumption would seem somewhat doubtful, if we consider that those portions of the glands in question, which in point of locality are the nearest to the ulcerated surfaces, are in most instances exclusively the seats of the intumescence; whereas in known cases of irritation of the same organs dependent on constitutional syphilis, it has always been observed that all portions of the glands, the superior as well as those which are nearest to the external genitals, are equally parties to the enlargement. It is moreover a fact, that sympathetic buboes scarcely ever fail to disperse spontaneously as soon as the irritating cause, the local affection in the neighbourhood, has been withdrawn or removed. Whilst disposed to make every concession in favour of the internal use of mercury exclusively, in some doubtful cases of this description, the author may nevertheless be permitted to express his own preference of a plan of treatment which should combine the moderate exhibition of mercury internally, with an uninterrupted use of topical remedies. Cases innumerable are, indeed, recorded of primary ulcers of the genitals having been speedily as well as permanently removed by topical remedies: whilst it is a matter of daily experience, that the use of such topicals is importantly calculated to prevent the simpler forms of solutions of continuity

from rapidly extending and eventually becoming deep-seated and dangerous ulcerations. It is indeed obvious to remark, that no substantial advantage can be lost by the proper use of topical remedies; inasmuch as the practitioner, at the time he is employing those remedies, is left at perfect liberty to have recourse to the internal use of mercury; whilst it may be further added, that by the use of topical remedies, and those more especially of the class of mercurials, the formation of buboes may in many cases be certainly prevented. The author is well aware of the objection, that buboes have often appeared after syphilitic ulcers of the genitals had been apparently perfectly cured by topical applications; as well as he is of the inference thence deduced, viz., that local applications, instead of preventing such results, should be considered as one of the principal means known in practice, a special example of the abuse of art no doubt, most calculated to produce them. The answer however to this objection is easy and obvious, viz., that it applies almost exclusively to the abuse of external remedies. Topical remedies may be abused by their being administered for too short a period, by their application being too long delayed, and also by an injudicious choice of irritating materials, or of improper specimens of topical formulæ for their composition. No stimulant substances, nor escharotics of any description, should be permitted to be used as topical applications in the treatment of simple ulcers; and it may perhaps with propriety be laid down as a rule of practice, that all topical remedies having for their object the removal of the lardaceous incrustation lining the parietes and base of the chancreous ulcer, should consist of some form or other, either simple or combined, of a mercurial preparation. The red oxyd of mercury may be mentioned as an excellent application for this purpose. The submuriat of mercury prepared by precipitation has also been used with great advantage, especially in cases where the grey and incrustated lining of the ulcer already mentioned had fallen off, or been removed by the previous use of the red oxyd. Either of these preparations should be applied once, at least, in four-and-twenty hours; the part affected, in the mean time, to be covered and protected by a dossil of fine lint. When the vagina is the seat of disease, the grey mercurial ointment, in a quantity equal to about the size of a nutmeg, should be introduced into it morning and evening: and to prevent as much as possible the escape of the remedy upon its becoming soft from the heat of the passage, a small pessary of sponge or of lint should be passed up, just high enough to ensure its remaining above the os externum. The patient should be advised, during this part of the treatment, to wear napkins or drawers to secure her ordinary linen from stains, which might probably betray the nature of her complaint. A similar form of this remedy, the reader will recollect, has already been recommended, as having been found exceedingly useful in vaginal gonorrhea. This plan of treatment, not now for the first time suggested for the cure of syphilitic ulcers, should be persevered in without interruption, not only until the sores shall have been perfectly healed, but until every vestige of induration of the surrounding parts shall have been entirely removed: it being to be considered as an established rule of practice,

that a radical cure of a syphilitic ulcer cannot with certainty be reckoned upon as long as there shall remain the least hardness or thickening of the spot which the ulcer had occupied, or of any part of the surface or subjacent tissue immediately surrounding it. Such are the remedies, whether exclusively or principally topical, which have been sanctioned by experience as the best means for ensuring the speedy relief and ultimately the efficient cure of primary syphilitic sores. But the topical remedies now suggested as the best means of local treatment cannot be depended upon as omnipotent and never-failing remedies in all cases and circumstances of syphilitic ulcers. If we take the truth of a plausible doctrine for granted, and at once admit that some of the preparations of mercury are really possessed of a specific power to neutralise the poison of syphilis; yet, inasmuch as it cannot be considered in any other light than as a relative power; it is obvious that it cannot be final and absolute in all stages and forms of the malady. Who will take upon himself to determine, in every case of a syphilitic ulcer, the date of the absorption of the poison into the mass of blood, subsequently first, to its application to the affected part, and then, secondly, to the actual establishment of a pustule or ulcer as an effect of such application? Are there no recorded exceptions to the generally acknowledged claims of mercury as a specific power? Have there not been examples of the total absence of all influence of mercury even over primary ulcers of the genitals? It is, moreover, impossible to predicate the time when an ulcer, acting on a peculiar idiosyncrasy, may erode its way through the muco-lardaceous lining of its surface, so as to expose the subjacent tissues to the immediate influence of the infecting poison? Hence, in the opinion of the author, the soundness, and at all events the safety of the doctrine, that the internal administration of mercury, even during the treatment of primary syphilitic ulcers, should on no account be omitted.

When the disease is recent, a small charge of the remedy, continued for about a fortnight after the healing of the primary ulcer, has been considered sufficient to afford a perfect protection against a subsequent reappearance of the disease under any form of a secondary or constitutional syphilis. When, on the contrary, the case is become one of some standing, or the ulcers are known to be the result of a constitutional malady, then it is manifest that a complete course of mercury will be indispensable.

It is a fact long and familiarly known to the profession, that the genitals of both sexes are liable to become the subjects of ulcerations, exhibiting, in many cases, some points of striking resemblance to those of syphilis; which however prove incurable by mercury, whether externally or internally, or both externally and internally administered. Ulcers of that description are occasionally seen to assume a better aspect for a short time during an exhibition of mercury. They then either remain stationary or they grow rapidly worse, so as to furnish to the practitioner a most distinct indication of his duty either to suspend or totally to abandon the use of mercury. In such puzzling and anomalous cases many and

various modes of treatment have been recommended by practical writers. In some of the cases of this kind, opium has been used, both internally and externally, with great success. Sometimes the opium has been dissolved in distilled water, and at others and according to circumstances, in alcohol or camphorated spirits of wine : sometimes it has been combined with a solution of the extract of cicuta, and at other times with an aqueous or spirituous preparation of digitalis. In some cases a saturated solution of the muriat of barytes, given in doses, gradually increasing the quantity, of between five and fifteen drops twice a day has been exhibited with great effect. Practitioners have also derived great advantage from the external use of a lotion made with fifteen grains of oxymuriat of mercury dissolved in a pint of lime-water. With similar excellent effects a liniment consisting of four grains of the carbonat of the peroxyd of copper, well levigated and diffused in an ounce of olive oil, and applied, by means of a piece of fine lint charged with it, to the ulcerated part once or twice a day. Mr. Hunter advised phagedenic ulcers and other ill-conditioned sores, become stationary during the use of mercury, to be touched lightly with the nitrat of silver. Dr. Swediaur has however expressed considerable doubt as to the advantage or even safety of that practice. In the case of ulcers mainly depending for their continuance and exasperation on a chachectic condition of the constitution, tonic remedies are obviously indicated. A wholesome country air, a nourishing and strengthening diet, a moderate use of good wine, gentle exercise in the open air, and tepid sea-baths, should therefore be recommended in such cases as powerful auxiliaries. Notwithstanding, and in opposition to the injunctions of some writers, it may be sometimes allowable to touch the surfaces of ulcers of this description with caustic. Astringent lotions, such as the decoction of tormentilla root, or an infusion of bark in red wine or lime-water, are excellent applications to indolent and ill-conditioned sores. Topical remedies of this class will be best applied in the form of lotions frequently repeated, or by soft poultices, made or softened by admixture with them. Swediaur observes that he found a decoction of green walnut-shells, used both internally and externally, a most successful remedy, after all other means had been used in vain. Vol. i. p. 366. In other circumstances, rhubarb, columba, quassia, and other bitters, have been known to produce speedy cures. Lotions made with sulphat of zinc, in the proportion of two grains to four ounces of water, have been highly recommended, and especially in this country are very frequently employed. In cases of non-syphilitic ulcerations, but nevertheless the effects of infection from impure sexual intercourse, repeated applications of simple alcohol are often speedily productive of a cure ; the ulcers generally disappearing in the course of a few days.

Many excoriations of the female external genitals are the results of irritation from diverse acrimonious discharges from the uterus. The descriptive histories, and the indications of treatment proper for the several varieties of such cases, will be discussed under their respective heads hereafter. It will suffice at present

simply to observe, that frequent injections into the vagina, or, if convenient and properly indicated, even into the uterus, added to frequent ablutions of the pudendum with cold or tepid water, with or without the addition of soap, according to circumstances, will, in the greater number of such cases, materially abate from the topical discomforts of the patient.

OF CERTAIN TROUBLESOME AFFECTIONS OF THE URETHRA AND ITS ORIFICE.—The urethra, though not essentially a part of the sexual apparatus of the female, is nevertheless so intimately connected, by the several relations of structure, functions, and position, with those of the genital organs, that it will not be considered foreign to the author's engagements to notice a few of the more frequent or troublesome disorders to which that important appendage to the bladder is subject. The female urethra opens by a small oval fissure, bounded in many cases by a slight projecting margin of the same form, having its longer diameter vertical, and, precisely correspondent with the median line of the genital sulcus, is situated at an equal distance from the root of the clitoris and the anterior angle of the orifice of the vagina. It being a frequent duty of a practitioner in midwifery to use the female catheter, it is of the utmost advantage that he should possess a precise knowledge of the relative position of the urethra, and especially that of its orificial extremity. This knowledge should indeed be so accurate as to enable the medical attendant, excepting in cases of an unusual nature, to introduce the catheter without exposing the patient. The female urethra is about an inch and a half in length, and considerably more capacious as to its diameter than that of the male. It is imbedded in a thickish investment of vaginal and cellular structure, by the latter of which it is attached to the angle of the pubis. The orifice is therefore situated immediately below and in front of the angle of the pubis. The relative position of the urethra to the anterior parietes of the vagina, the substance of which it traverses in its ascent to the bladder, as a chimney ascends through a wall of common architecture, and to the angle of the pubis, being accurately known, then there are two or three pretty simple rules which, if properly observed, will enable the practitioner, in most cases, to introduce the catheter without much difficulty. The first is, to carry his finger to the lower edge of the symphysis pubis, where probably he would easily find the orifice of the urethra; or, secondly, he might pass his finger into the vagina, and immediately anterior to its orifice he would find the slightly prominent and margined entrance into the urethra. It should here however be made the subject of remark, that the prominence just described is not to be felt in all cases and at all periods of life of the female subject. In some young females it is indeed scarcely to be distinguished; whilst in women of spare habits and delicate health, and especially in old age, when the tissues of the body suffer relaxation and reduction of bulk, there is not only no prominence at all, but there is often a perceptible depression; which however will equally decide the locality of the part, and

furnish to the practitioner an equally good guide to the introduction of the catheter. The third and best rule is, to feel for the projecting tissue of the clitoris, and thence to carry the finger downwards as if towards the vagina. At the intermediate distance between the clitoris and the entry into the vagina he would encounter the orifice of the urethra. On each side of that orifice, however, it should be intimated to the reader that there are occasionally to be met with certain lacunæ or orifices of muciparous ducts, which in some cases are large enough to perplex his attempted operation. At other times the parts will be found disturbed as to their locality in consequence of difficult labours, or as results of diseased conditions of the tissues themselves. To these causes of displacement may be added several malpositions both of the uterus and the bladder. In cases where the taxis is not sufficient to enable the practitioner to guide his catheter into the bladder, he might be under the necessity of availing himself for a moment of the use of his eye. The urethra ascends immediately behind the symphysis pubis; and therefore, the patient being supposed to be lying on her back, the point of the instrument should be elevated as it is progressively introduced. Catheters are often made straight, with a little curve at the end; but they should be curved much more than they frequently are. It occasionally happens that the urethra is thrown out of its ordinary direction by reason of its structural connexion with the vagina. In prolapsion of the uterus, for example, when the vagina is necessarily thrown into folds, this must happen; but it can scarcely take place without more or less affecting the direction of the urethra. To secure in such cases an easy introduction of the catheter, the uterus must be previously reduced. But the simple adjustment of the position of the uterus will sometimes enable the patient to relieve herself, without having recourse to the use of the catheter at all. A once-celebrated lecturer on midwifery at Guy's Hospital was sent for in a great hurry, and at an early hour, to visit a lady residing at a little distance from London, who had been harassed, during the whole of the previous night and part of the preceding day, with a painful retention of urine. When the physician arrived at the lady's residence, he had the mortification to discover that he had not his catheter with him, and he was not a little perplexed as to what he should do. He was very desirous of escaping the imputation of negligence. He desired his patient to place herself upon her chamber utensil in the usual position for relieving the bladder. He then passed his finger into the vagina, bore the uterus upwards, so as to remove the pressure which it made upon the neck of the bladder, and desired the patient to make the usual effort to ease herself. This happy expedient succeeded; and the doctor was at once relieved from his perplexity and the lady from the agony of her situation. The patient having been particularly attentive to the means used by her medical attendant to effect his object, and gratified at the facility with which he had accomplished it, determined, if a similar necessity should again occur, upon trying to repeat upon herself the same manœuvre; and in fact it so completely succeeded that

she found it unnecessary to require the services of that gentleman again. Lowder's MS. Lectures. A state of simple irritation of the urinary organs, from whatever cause, without being accompanied by any mechanical obstruction or impediment from malposition either of the bladder itself or of contiguous structures, has been found sufficient, in some women, to produce retention of urine. It often occurs to gentlemen practising midwifery to be obliged to have recourse to the use of the catheter after the most easy labours, and to have to repeat the operation daily or more frequently for many weeks subsequently.

Sponging the genital surfaces with hot water for some minutes will sometimes supersede the necessity of having recourse to the more artificial means of relief by the catheter. Retentions of urine from mechanical obstructions incident to certain dangerous malpositions of the internal organs of generation, whether during pregnancy or at other times, or from the occupancy of the space usually allotted to the visceral contents of the pelvis by morbid tumours or encroachments of any other kind, will receive more ample consideration when the several subjects of the diseases and the diseased conditions in question shall come in due course to be discussed.

Among the painful affections of the urethra in women, there is one for which it is exceedingly difficult to detect a sufficient cause. In some of the cases alluded to, a more than usual elevation of the margin surrounding the orifice of the urethra has been observed; but it has been unaccompanied by any indication of an inflammatory condition. In one instance the part in question was so largely developed that the lateral parietes of the orifice presented very strikingly the appearance of labia majora in miniature. The patient complained of great pain of the part, which she represented as being exasperated during micturition. There was not the smallest change of colour to be observed. Micturition was attended with considerable difficulty; but the introduction of the catheter was effected without being accompanied by any perception of a mechanical impediment to its progress. The subject of the case was a married woman of strictly virtuous habits, who had never been the subject of gonorrheal nor of any other inflammatory affections of the genital surfaces. The only history which she could give of her case was, that it supervened upon her last labour, which had been rather a severe one. In other respects her recovery, after her confinement, was rapid and perfect. She has hitherto obtained no substantial benefit from any mode of treatment which has been adopted for her relief. She is at present in a state of pregnancy, and it may appear a matter of some curiosity to anticipate the probable influence of her next parturition on the ultimate issues of her case.

The orifice of the urethra is sometimes most painfully obstructed by the presence of fungoid carunculous growths from the mucous membrane of the part. A case of this kind occurred in the practice of the author, which enabled him to ascertain with some degree of precision the pathology of one of the varieties of diseased condition incident to the urinary passage. Mrs. W. of Kentish-town

had been for many years the subject of distressing pains of her urethra. The state of the part had been examined by the late talented Dr. John Clarke some five-and-twenty years before the author was consulted. What was done or advised by that gentleman for the relief of the case could not be learnt. It was however a matter of distinct recollection with the patient that Dr. Clarke had given his opinion of the eventual issues of the case, subject to one condition, viz., that if ever the fungöid excrescence, then occupying the orifice of the urethra, should creep up along the interior of the passage, so as to reach the bladder, it would end fatally. What could have been the grounds or motives of such an opinion, does not appear very obvious. It is most probable that some mistake must have been committed as to the meaning intended to have been conveyed by Dr. Clarke by the prognosis which he is reported to have made and communicated to the lady's friends, at the time alluded to. When the author was first consulted, it is now about six years since, Mrs. W. appeared to be about fifty years of age, and was the mother of three children, all of whom were then alive. She presented the indications of considerable strength of constitution and firmness if not robustness of general health. She complained, however, of being the subject of great depression of spirits, and of certain other symptoms of dyspepsia. Her tongue was habitually indicative of a disturbed state of the digestive functions. She had no fever. The orifice of the urethra was garnished with a bunch of fungöid excrescences, which, conglomerated together, amounted to about the size of a small raspberry. The colour of the fungus was that of arterial blood. Its structural tissue was not in itself painful, nor even sensible to the touch; but it bled readily upon the application of pressure to it. The introduction of a catheter to the bladder was attended with considerable difficulty, and gave to the operator the sensation of its being obstructed by a series of successive obstacles. The surfaces immediately contiguous to the preternatural structure were represented as being exceedingly painful, though in point of colour they seemed to be perfectly free from inflammation. The functions of the bladder were stated to be much disturbed, the patient being harassed by incessant calls to void its contents: but there was no evidence that it had ever sustained any considerable distension from protracted retention of urine. There was no tenderness of the hypogastric region, nor of any other part of the abdomen, upon the application even of firm pressure. It was nevertheless a part of the history of the case, that the patient had from time to time to endure tremendous paroxysms of abdominal and uterine pains. The uterus, as to its structure, was perfectly healthy, as was also the vagina: nor was the presence of any functional disorder of either of those organs indicated by any morbid secretions from their surfaces.

On considering its peculiar character, and in consequence of being able early to ascertain the fact which had been at first suspected, that the whole course of the urethra in common with its origin was become a party to the fungöid growth described, the author determined to leave no effort untried to effect its entire removal.

To accomplish that object, as far as the visible portion of the excrescence was concerned, he had recourse, in the first instance, to the application of lunar caustic to it. But that application not proving a sufficiently powerful escharotic, he ventured on one occasion to try the effects of caustic potash. Doubtful, however, of the safety of so active a topical, when applied to a structure so immediately communicating with the mucous membrane of the urethra, he preferred to effect the extirpation of the fungus by abscision of its peduncle; for it was ultimately attached by a stem which was of a diameter something less than that of the body of the tumour itself. When the external portion of the excrescence had been thus removed, it became manifest that the interior surface of the urethra, higher up along its course, was the seat, as had been already suspected, of a similar excrescent production.

To effect the gradual devitalization and eventual separation of the morbid vegetations now ascertained to infest the urethral canal, the author had recourse to the use of bougies of gradually-increasing size, which were introduced daily and directed to be worn for as many hours each day as the patient could be induced to allow them to remain. The long duration of her complaint having probably increased her natural irritability, Mrs. W. could not be persuaded to endure the pain which she sustained from the forcible dilatation and the pressure on the internal surface of the urethra, occasioned by the instrument, for more than about three hours at a time. The earlier part therefore of this remedial process became very tedious and unpromising.

After the instrument had been worn for about a month, the patient found that she could empty the bladder with much less inconvenience than she had been competent to do for many years previously; and thus finding that she really received benefit from the painful treatment which she was submitting to, she at length consented to wear a much larger instrument than she had worn before, and for a greater number of hours each day. The presence of these instruments produced a considerable excitement of the bladder, and this occasioned from time to time their being violently pushed out by its muscular contractions. At this period minute portions of the fungoid excrescence were being detached by the pressure of the instrument, and occasionally expelled when the patient voided the contents of her bladder. The nurse in attendance had particular directions given her to preserve, with the greatest care, till the next expected visit of the medical attendants, every particle of fungous tissue which might be thus detached. The mode which suggested itself to her mind of complying with this request, which was that of fishing out from the chamber utensil all portions of adventitious structure which might be voided into it during every occasion of emptying the bladder, and folding them up in a clean napkin, proved perfectly useless as a means of their preservation; that person was then requested to remove from the utensil the fungoid deposits into a bason of pure water. This altered mode of preservation became the means of enabling the author and his friend Mr. Harding, who assisted him in the management of the

case, of detecting pretty accurately the nature of the tissue which constituted the structural produce of the disease. It consisted of innumerable vesicular bodies, strung together by exquisitely delicate filamentous threads, which before their immersion in the cold water were conglomerated together, by their admixture with coagulated blood, into confused and unravelable masses, not to be distinguished from the coagulated blood itself. The bougies used about this time were nearly of the size of the index finger. But in consequence of their being frequently pushed out of the urethra, even sometimes against the volition of the patient, it occurred to the author, that a contrivance might be devised which might have the effect of obviating that inconvenience. For that purpose he gave an order to his surgeon's instrument maker, to supply him with an ivory instrument of about six inches in length, made something in the form of a drumstick, bulbed at one end, smaller at the neck, and then gradually increasing in thickness to the higher part of the bulb, of which the diameter was about seven-eighths of an inch. The small part of the neck was about half that diameter. An instrument of this form seemed calculated to attain two important objects; viz. first, the secure retention of the instrument in the urethra; and secondly, the application of pressure to the interior of the neck of the bladder, for the purpose of mechanically disturbing and devitalizing, and by that means, eventually, of effecting the removal of the hydatid growths which were conjectured to be there attached. The bougies used at this period were of considerable diameter; and it occurred to the author that it might be practicable to introduce the index finger not only as far as the vesical extremity of the urethra, but even into the interior of the bladder, so as to be enabled to ascertain the actual condition of the parts there by means of a pretty accurate taxis. That attempt was made and succeeded. In the urethra there was nothing to be felt which conveyed any other sensation than what the mucous lining of the passage might naturally be expected to give, EXCEPTING AT ONE PART, about its middle; where the finger was obstructed in its progress by a bunch of softish excrescent tissue. But at the part communicating with the bladder, the passage felt as if it had been completely clogged and made up by diseased structure. By cautious perseverance, however, the first joint of the index finger effected its entire passage into the bladder, and by continuing a steady bearing upwards for about a quarter of an hour longer, it was passed up as far as the second joint inclusive. Whilst in this position it was sufficiently at liberty to detect the fact and peculiar character of any departure from natural structure which the part might present. Upon carrying the point of the finger all round the neck of the bladder, the author could distinctly recognise the presence of a circular ridge of structure foreign to the natural organisation of the part. In breadth, that is in its extension upwards from the vesical extremity of the urethra, it might amount to about half an inch. Its superior limit was felt to be tolerably defined, and nearly equal at every part; so as to admit of the inference that the fungus was not propagated to any great

extent along the interior surface of the bladder. On withdrawing the finger it was covered with a thick coating of blood and mucus. The whole extent of the disease was now considered to have been ascertained; and it became an object to devise, if possible, a commensurate remedy. The locality of the diseased structure was such, that no cutting nor pointed instrument, nor any variety of forceps, appeared calculated to effect its removal. It however seemed reasonable to presume that pressure might possibly be made as applicable to this part of the case, as it had already been found useful in its application to the interior of the urethra. It has been already stated, that the patient had found it difficult to retain the bougies by reason of the powerful contractions which had been exerted by the bladder for their expulsion. Availing himself of this fact, the author supplied himself with an instrument which united the properties of a catheter and bougie; and which, he presumed, might also, in a great degree, ensure for him the attainment of his remaining and principal object, viz. that of enabling him to apply pressure to the ridged fungus already described. This piece of mechanism, see pl.viii. fig. 9, was made of ivory, and was six inches long, and of unequal diameters at different parts. At a short distance, at a and c, from its anterior extremity, or that which was intended to be introduced into the bladder, its diameter was much greater than at any other part, and measured seven-eighths of an inch, and formed a ridge of considerable elevation. At the base of the elevation posteriorly, at b and d, the diameter did not exceed three-eighths of an inch. The instrument throughout its entire length was perforated by a tube of about the size of a small goose quill. This tube communicated with several rows of smaller tubes, which opened on the inclined plane from its ridged part at a and c, to its base anteriorly. From the summit of its ridge at a and c, to the narrowest part of its posterior inclined plane at b and d, the descent was comparatively abrupt. By means of a piece of mechanism of this construction, it appeared reasonable to calculate that pressure might be applied with considerable effect to the fungoid growth at the neck of the bladder. Experience had proved that the muscular fibres of that organ had been excited to the most violent contractions by the presence of the bougies, of whatever sizes, which had been introduced into it. It was therefore a plausible presumption, that the inclined plane surface from the summit of the ridged part of the instrument at a and c, to its base at b and d, would, upon the renewal of the muscular contractions of the bladder, become closely applied to the ridge of fungus within its neck, and effect a pressure upon it proportional to the violence, that is to the power, of the vesical contractions. The bulbed part of the instrument was of considerably greater diameter than any of the pessaries which had been previously introduced. But with some difficulty, and after much cautious perseverance in the attempt, its introduction was ultimately effected. For the first three or four hours the patient sustained little or no inconvenience from its presence. From that period forward till next morning the contractions of the bladder became

increasingly painful. The urine which distilled through the bore of the instrument, gave to the napkins which received it the appearance of having been steeped in bloody fluid. On the third day from its introduction it was withdrawn: and although its presence had occasioned extreme pain, it was withdrawn with much less difficulty than had been anticipated. The portion of it which had been in apposition to the fungus was smeared over with shreds of bloody lymph and mucus; whilst its anterior beak, intermediate between its point and its ridged elevation, was become exceedingly rough, like sand paper, from an incrustation which was deposited upon it of sabulous matter. On the first occasion of emptying the bladder subsequently to the removal of the instrument, much larger masses of fungus came away with the stream of urine than had ever been discharged before. They however presented, upon being thrown into clear water, the same character of structure as those from the urethra had exhibited. They consisted of minute vesicular bodies, containing limpid fluid, connected together by shreds of filamentous tissue. The instrument was again introduced on the following day, and subsequently withdrawn, and re-introduced three or four successive times. In about eight days after its first introduction, the excrescent formations ceased to be expelled; and upon withdrawing it for the last time, it was ascertained by a careful examination by means of the taxis, that they had been totally eradicated and removed. Mrs. W. has never experienced a return of her complaint.

A case which bore a distant analogy to the extraordinary one just described, occurred about twenty years ago in the author's practice at the Sheffield General Infirmary. In the instance alluded to, the vesicular bodies had probably never been threaded together by ligamentous filaments: at all events, they were expelled singly, and at distant intervals; and they were so smooth on their external surface, that they furnished no proof of their having been connected together, or recently adherent even to their proper generative surface. The vesicles in that case were about half an inch in diameter, pretty firm as to texture, white like the whitest membrane upon being voided, never tinged with particles of blood, and but slightly, if in any degree, transparent. They were filled with an aqueous colourless fluid. They were expelled at uncertain intervals of between a fortnight and six weeks, by violent and extremely painful contractions of the bladder of several hours' duration. The subject of the case was a patient of the Infirmary for many months, but received no advantage from any treatment that was adopted for her relief. See a case of hydatids of the bladder in a male, by Dr. Alexander Russell, *Medical Observ. and Inquiries*, vol. iii. p. 146; another by Dr. Blackburn, *London Medical Journal*, by Simmons, vol. i. p. 125.

A troublesome and a not very unfrequent affection of the urethra, in females, is an inversion, together with a prolapsion, of its mucous lining. If not the effect of accidents during labour, nor of diseases of structures immediately contiguous, it is most commonly the result of a cachectic state of the general health. In incipient cases it is to be remedied by pressure applied by means of

bougies to the interior of the urethra. When it has become chronic and assumed a severe form, it will seldom yield to any other treatment than that of abscision, either of a part or of the whole, of the prolapsing tissue. It has already been stated, that the female urethra is much shorter and wider than that of the male. By reason of such construction, this organ in the female has been made especially accessible to accidents and injuries of various kinds. Without professing to enter at length into the consideration of the more surgical diseases of the bladder, the author feels it nevertheless his duty to refer briefly to such of them as might be especially likely to come, in the first instance, within the cognizance of the practitioner of midwifery. Amongst the morbid affections of the bladder to be enumerated under this head, should be particularly noticed its well-attested liability to be injured by the introduction into its cavity of foreign bodies: such as have often been known to produce ulceration, calculous formations within it, over distension of its parietes, and death. A case is related in *l'Histoire de l'Academie Royale des Sciences*, 1750, p. 50, of a young woman who used the head of a large iron pin to relieve a pruritus of the external genitals which had been extremely troublesome to her. She was in bed during the application of this remedy, and fell asleep whilst performing the operation. The pin escaped into the bladder. She kept the accident a secret for eight months, during which period she was placed under the care of a surgeon of her district. At length a celebrated surgeon of Venice was engaged to attend her at the expense of a gentleman of fortune who resided in her neighbourhood. The Venetian surgeon soon discovered the nature of the case. The pin was found incrustated with calculous matter, and at one part it felt as if imbedded in a cyst, which the bladder had formed around it. This was considered as calculated to render its extraction with a pair of forceps, whether straight or curved, impossible. The high operation for the stone was therefore performed: but the patient being previously in a very reduced state of health, she did not survive it for more than three days.

A young woman, twenty-six years of age, became the subject of a stone in the bladder, of which the nucleus was an ivory bodkin or needle, such as ladies use in making caps and other articles of dress. The history of this ivory needle as given by the patient herself was, that when she was seven years of age, a fish-bone stuck in her throat: that her brother, who was several years older than her, after other attempts to relieve her, made use of the ivory; but that he lost his hold of it, and it dropped down her throat, and escaped into her stomach. An operation was performed for its removal by M. Lutapy. The stone weighed nine drachms and forty-two grains. The patient soon after perfectly recovered. *Histoire de l'Academie Royale des Sciences*, 1759, p. 86. For a parallel case, see the *Philosophical Transactions*, 1735. A young woman of seventeen years of age, introduced into her bladder a piece of wood, which occasioned retention of urine and other distressing symptoms. M. France, a doctor of medicine, was con-

sulted in the case. That gentleman discovered, by means of the sound, the existence and even the position of the foreign body. It was placed transversely across the bladder in such a way, that its extremities rested firmly on the lateral parietes of the pelvis. After having made some unsuccessful attempts to remove it with a pair of forceps, he at length succeeded in the following manner. He seized with the forceps, introduced by the urethra into the bladder, the piece of wood, and brought one of its extremities downwards in such a way as to make it bulge perceptibly at a superior part of the vagina, about ten lines behind the vesical orifice of the urethra, and as much to the left side as he possibly could. An incision upon this salient point being made through the vaginal structure, he directed his instrument upwards into the bladder as obliquely as he well could. The opening thus made, enabled him to bring out the piece of wood with great facility. It was three inches and nine lines in length, and fifteen lines in circumference; and although it had been only fifteen days in the bladder, it exhibited on its surface a calcareous incrustation. The want of correspondence of the two incisions, the one into the vaginal structure, and the other into that of the bladder, was especially calculated to prevent the escape of urine by the wound. The patient was not long before she was able to void her urine by the urethra. She experienced no ulterior accident, and on the eighth day after the operation, she resumed her ordinary occupation, which was that of a shepherdess. *Corvisart's Journal de Médecine, &c. vol. xvi. p. 201.*

A bodkin made of bone was passed into the urethra of a young woman by another female who slept with her, and who wished to have a personal acquaintance with her, for which she was not naturally competent. The bodkin, which was used as a substitute for the natural instrument, fell into the bladder of the innocent subject of this case. In a few days subsequently, she was attacked by violent pains, accompanied by great difficulty in voiding her urine. After the lapse of some time, the bodkin ulcerated its way into the vagina, incrustated with a coating of sabulous matter. A breach was thus necessarily made in the neck of the bladder, which showed no disposition to heal. The patient therefore continued subject to incontinence of urine, as well as to slight inflammation of the surfaces exposed to its irritating effects. *Hist. de l'Académie Royale des Sciences, 1735, p. 21, 22, communicated by M. Morand.*

A woman, aged twenty-four, after having been delivered of her first child, which was still-born, seemed to recover satisfactorily for the first five days; but was then attacked with a fever of the typhous kind. She continued to languish for nearly a month, and then died. Dr. Hamlin, who saw her with two other gentlemen three days before her death, was strongly impressed with an idea that her disease proceeded from some powerful obstruction. On inspecting the body in the presence of several spectators, and on laying open the abdomen, the urinary bladder was seen to be much distended, and about one-half of it to be in a state of actual mortification. The ureters were slightly

distended, and on the lateral portion of the bladder which approximated the right ovary, there was a tumour of nearly the size of a hen's egg. The cavity of the bladder itself was filled with fœtid sordes like matter intermixed with hair. Dr. Hamlin, before he opened the bladder, took it out of the body and emptied such of its contents as were not attached to its coat. He found that the tumour already alluded to extended into the interior of the bladder, and that the hair which covered the tumour grew from its inner coat. The extension and contraction of the bladder had worked the hair into an oval figure, which, when cleansed of the matter that adhered to it, and afterwards thoroughly dried, weighed two drachms. Upon cutting into the tumour from the outside, he discovered that it contained a bony substance, together with some softish imperfectly organized matter, which had the appearance of brain. The intestines were much distended with air. There was a slight inflammation of that part of the uterus which came in contact with the sphacelated bladder. The rest of the viscera were sound. The hair was generally from four to twelve inches in length. One was eighteen inches. The bulk of the hair, together with the matter which was admingled with it in the bladder, was five inches long and three in diameter. The patient had been distressed with a strangury three or four years antecedently to her death, and it had returned during her pregnancy. *New York Medical Repository*, vol. x. p. 3, 4, 8.

Numerous cases are recorded of the facility with which females are competent to void, spontaneously and without any assistance of art, large calcareous concretions from the bladder. It has been recorded of one case, which occurred in the practice of Morand, that a calculus was thus expelled which weighed five ounces and two drachms. The ejection was followed by an incurable incontinence of urine. In the large collection of urinary calculi at the Hotel Dieu, amounting to many thousands, it is stated that only two hundred of them were extracted from female subjects. The inconveniences incident to calculous formations in the female bladder are, however, often productive of evils of the last importance. For although such bodies are most frequently thus spontaneously ejected without much difficulty, and without being followed by fatal or even injurious consequences; nevertheless, in some other cases they are not expelled without being accompanied by atrocious pains, nor without inflicting on the urethral structure injuries which are never repaired. "Madlle. de Fiton had never sought assistance, and it was solely by the efforts of nature that she escaped from an enemy that had inflicted upon her the most cruel torments. During the greatest atrocity of her pains, she was wont to jump about her room and to bite and tear her assistants like a mad woman. It is impossible to describe the agonising sufferings which she endured on the night during which her calculus, of which the diameter in one direction was two inches and two lines and in another one inch and one line was ultimately expelled. Subsequently to that result she obtained immediate relief, and could taste the unaccustomed sweets of sleep: but, in consequence of having refused surgical aid she exposed her-

self to become the subject of new sufferings. The discharge of the calculus was succeeded by extensive lacerations of the parts concerned, and these were followed by such a state of ulceration of the surfaces, as rendered the escape of the contents of the bladder exceedingly painful to her during the remainder of her life. She died in about five years afterwards. *Annales Cliniques de la Société de la Médecine pratique de Montpellier*, tom. iv. p. 98. It may be here added, in objection to the practice of surrendering cases of stone in the bladder, even in females, to the unassisted powers of nature, that the retention of calculous bodies within its cavity for many years, has not unfrequently been succeeded by distressing and fatal ulcerations, even of that organ itself. *Ephemerid. Germanic. an. 2, 1671*, p. 269. It is indeed true, that the ordinary operation of cutting for the stone, when performed upon the female, has in too many cases been followed by fistulous openings, between the neck of the bladder and the vagina, which have never healed. It is also too true, when the HIGH operation, either from choice or necessity, has been preferred, that it likewise has been succeeded in numerous instances by inconvenient and even disastrous results. But the practitioners of the nineteenth century have the happiness of contemplating IN THE BEAUTIFUL DISCOVERY OF LITHOTRITURE, of which the practice has already become irreversibly established, a remedy so easy of application, especially in the female, and so sovereign in its results, that the most timid subjects of the disease WILL IN FUTURE BE LEFT WITHOUT A REASONABLE EXCUSE for the surrender of their happiness and their lives, to the uncertain issues of uncertain interpositions on the part of nature in their behalf. Many curious facts on the subject of vesical concretions, and some of considerable practical value, which however it would be improper to notice more particularly in this place, may be consulted by the reader at his future leisure or pleasure among the following works: *Ephemerid. Germanic. dec. i. p. 269. Borell. 2. observ. 22. Th. Bartholin Cent. 1, Hist. 71. Ephemerid. Germanic. an. 2, 1671, p. 223. An. 6 et 7, 1675, 1676. An. 8. 1677, p. 15. An. 9, 10, 1678-9, p. 239. Dec. ii. an. 5, p. 396. Dec. ii. an. 7, p. 127. Physicalische Belustigungen, Berlin, p. 543. Commentarii de Rebus, &c. Lipsiæ, vol. xxiii. p. 104. Fabric. Hildan. Observ. Chirurg. Cent. 1, observ. 68. Ruysch. Observ. Chirurg. Cent. observ. 1. Bussiere', *Phil. Transact. 1700*, abridged, p. 188. Transactions of the Royale Academie of Sciences of Sweden, vol. xxxvi. Lowthorp's Abridgment of the *Phil. Transact. vol. iii. p. 152, Idem, vol. iii. p. 157. Martin's Abridgment of Phil. Transact. vol. ix. p. 170, and also p. 179. M. le Cat's celebrated paper, accompanied by a plate of lithotomy instruments, Phil. Transact. vol. xlv. p. 97. Phil. Transact. vol. xlvii. p. 475. Phil. Transact. vol. lv. p. 128. Act. Phisic. Med. Acad. Natural. Norimberg, tom. i. p. 18. Barth. Act. Medic. pars 5, p. 158. Hafn. 1680. Sparrow's Saviard's Surgery, observ. 72, p. 159. Medic. and Phil. Commentaries, part 3, p. 298.**

PRURITUS OF THE EXTERNAL GENITALS.—The troublesome irritation now to be made the subject of a few remarks, is seldom to be identified with any primarily diseased condition of the parts themselves. Inasmuch, however, as it is an actual, and in many cases a most distressing affection of some of the tissues of the external genitals, the author feels that he cannot with propriety omit all consideration of it. One of the more frequent causes of pruritus of the parts in question, is the presence of *ASCARIDES* in the rectum. This is very generally the cause of the symptom in children; as it also is not very unfrequently in grown-up women. In most cases, it is presumed to be the result of sympathy between the rectum and the surfaces which are the immediate seat of the pruritus. In some others, practitioners have represented that the surfaces of the vulva and vagina have become themselves proximately the seat of the annoyance, from the vermin having been supposed capable of creeping from the rectum, their natural and safe residence, into the vagina and its vestibule, where it is probable they cannot long maintain even a torpid existence. Whether this latter opinion is well founded, the author has never had any means of determining; nor is he aware of an authentic registry of a single case in confirmation of it. The irritation from the presence of ascarides in the rectum, is usually accompanied by various morbid states of the alvine secretions, and especially by an unusual quantity of mucous secretion. It is indeed well known, that the extraordinary masses of mucus which accumulate in the rectum on these occasions, form a nidus for the geniture and development of ascarides. The exhibition of active purgatives, consisting of calomel, aloes, jalap and scammony, are the remedies on which we may most depend for the expulsion both of the worms and of the morbid mucus, which is an attendant if not an essential cause of their existence. It has been asserted, that ascarides cannot live in oil. Hence oily enemata have often been administered to meet the indication of thus directly effecting their destruction, whilst stimulant injections of diverse compositions have been exhibited, to promote, whether living or dead, their effectual expulsion. “*Causa sublata, tollitur quoque effectus.*”

It has been stated, that the *UTERUS* has been the seat of ascarides, accompanied by a pruritus of the genitals. From a perusal of some of the cases of this kind, which are recorded in several volumes of the *Ephemerides Germanicarum*, it seems upon the whole doubtful, whether the appearances described were actually or ever had been living entities. In one case the pruritus was ascribed to worms, which had been injected into the vagina, together with, or as forming a part of the husband's semen masculinum!

Worms have unquestionably infested *THE INTERIOR OF THE BLADDER*, and may doubtless have been productive of the symptom which we are now illustrating. An authentic case of the presence of worms in the bladder is quoted by Bartholin. *Acta Medica*, vol. v. p. 83. Hafn. 1680. The author was favoured about fourteen years ago with an opportunity of seeing a case of this description in the practice of his friend Mr. Barnet of Charterhouse-square. The

subject of the case is still alive ; and the facts of it, extraordinary as they are, are well known to Mr. Barnet's more intimate professional friends. For analogous cases, see Corvisart's *Journal de Médecine*, vol. xxiv. p. 410. *Recueil Periodique de la Santé*, vol. vii. p. 211. *Ephemerides Germanicarum*, dec. iii. 1696, p. 343, et dec. iii. 1697-1698, p. 217.

Pressure upon the hemorrhoidal system of veins from costiveness, and fulness of the same vessels, from whatever cause, are frequently accompanied by pruritus of the external genitals. This is probably the reason why women of middle age and upwards, of sedentary and inactive lives, and of full and luxurious habits, are especially subject to pruritus naturalium. The indications of treatment are obviously to diminish the fulness of the venous circulation by free abstraction of blood ; to relieve the bowels frequently and effectually by active aperients, and to recommend the habitual use of as much personal exercise as can be well borne. The observance of a spare diet, and abstinence from wine and fermented liquors will complete and confirm the cure.

In cases of pruritus from herpes, the cause may at once be satisfactorily ascertained. Herpes is an eruption of small red pimples, which are evident above the epithelium of the part affected. It both occupies the entire surfaces of the vulva, and extends into the vagina. It is said never to be attended with diarrhœa. It occurs most frequently during pregnancy. Herpes of these parts may indeed be said to be almost always co-existent with general or local plethora. The principles of treatment are therefore precisely the same as those under the foregoing head. Topical applications with lead have sometimes been recommended to relieve the intense phlogosis of the affected surfaces. All unctuous and camphorated applications are usually forbidden, as having in many cases been observed to aggravate the disease. If this eruption should present itself during pregnancy, our prognosis should be very reserved ; as it is seldom practicable to obtain a perfect cure for it till after delivery. The best palliatives will be found in bleeding, the local application of leeches, mild laxatives and enemata with cold ablutions frequently repeated.

The external genitals sometimes become the seat of a distressing pruritus from incipient cancer uteri. Pruritus of the surfaces in question is often one of the first indications of the invasion of that terrible malady. When the itching comes on about the forty-fifth or fiftieth year of a woman's age, attended with a stinging darting pain in the uterine region, we may strongly suspect a scirrhus or an incipiently cancerous affection of the uterus to be the primary cause of it. In that event, the prognosis to be made to the patient herself should be most guarded ; nor, indeed, should it be made the subject of communication at all, not even to the friends, excepting after the most ample opportunity of ascertaining the facts of the case. The general treatment of the primary disease will of course present itself for consideration hereafter. The topical remedies should be local abstraction of blood, with frequent ablutions and injections.

The great indication in both respects should be to subduct from the vascular fulness of all the parts likely to become implicated by the disease.

Pruritus of the external genitals is said to be a precursor as well as an early accompaniment of nymphomania. That disease is seldom seen in this country. It will, however, receive some consideration, when we come to treat of the functional diseases of the uterine system.

OF THE HYMEN AND CARUNCULÆ MYRTIFORMES: THEIR SITUATION, STRUCTURE, AND DISEASES.—The hymen is a membranous or membrano-carneous structure, which is situated at the entrance of the vagina, and serves to form a boundary between that passage and the genital sulcus or vulva. In the virgin state of the subject, it very much narrows the diameter of the orifice into the vagina. Its shape is various and uncertain. In some cases it is more or less perfectly circular, presenting through its centre a round aperture of three or four lines in diameter. At other times, only a part or exclusive portion of the orificial extremity of the vagina, sometimes the superior at other times the inferior portion of it, is seen to be veiled over with this structure. Another form of the hymen is, when there are two crescental portions attached to the more carneous structure of the external orifice laterally. When the aperture is of a square or of an angular form, it has had the designation of cardinal's hood hymen. When much puckered, and projecting forward by reason of exuberance of its natural structure, it has been called the cauliflower hymen.

It seems to have been an opinion once pretty prevalently entertained in a neighbouring country, that the hymen is not necessarily a characteristic distinction of any presumed state of parts, and that its absence furnishes no evidence, NOR EVEN A PRESUMPTION unfavourable to the virgin modesty and purity of any female, whose marriage might be consummated without being accompanied by the usual proof of its being then ruptured. It was an observation of Voltaire, that "modesty is not an attribute of the hymen, but of the heart." In all cases of virgin subjects, it may however be truly said, that nature seems intentionally to have surrounded the orifice into the vagina with an extra quantity of parietal structure: for independently of the slender barrier or partition which is furnished by the hymen, it is strongly arched superiorly by great abundance of vascular and cellular substance, guarded on each side by firm columns of carneous structure, and also by the crura clitoridis, supported below by an extraordinary thickness of cellular and integumental tissue, and even surrounded by the clytorido-perineal muscles. It was maintained by the illustrious Haller, that the hymen is a structure at once distinctive of the human female, and indicative of an original intention on the part of Providence, that there should be connected with it certain sexual duties and privileges, which should exclusively belong to the female of our species. But this doctrine, if admitted in any degree to be true, must

be considered as being greatly exaggerated: for, although in the females of the lower orders of mammalia, an actual hymen, as it is to be seen in the human female, may not be demonstrable, it is nevertheless the fact, that the tissues of the os externum IN THE VIRGIN ANIMAL are thrown into folds exceedingly analogous to those of some varieties of the human hymen, and are so much contracted into puckerings and gatherings, as to secure to all their subjects, including mammifere females of every genus, nearly an equal protection against premature and forcible invasion of their sexual privileges. Cuvier. Dict. des Sciences Medicales, vol. xxiii. p. 98. The most distinctive peculiarity of structure appertaining to the sexual organs of the human female, is to be found in her almost exclusive possession of nymphæ. The exceptions to this rule are so few, that they have been considered very remarkable. The hymen being a boundary structure between the vulva and vagina, is therefore common to both. In or near the centre of it, there is usually an aperture of about half an inch in diameter, which presents considerable varieties of figure, as well as of dimensions, in different individuals. In the average of adult subjects, and the exceptions are very rare, it is large enough to admit the index finger sufficiently high up into the vagina to enable the obstetric practitioner to reach and to ascertain the state of the orifice of the uterus, without rupturing a fibre of the vulvo-vaginal membrane. Cases of breech presentations have occurred where practitioners have considered it useful to introduce the index finger sometimes into the rectum and sometimes into the vagina of the child. The author thinks he can truly state, that in the few cases of the latter procedure which have come within his knowledge, the foetal hymen was never ruptured. Whether the hymen at that early period is quite finished, either as to its form or extent of boundaries, appears upon the whole doubtful. If subject to a similarly imperfect development of finishing structure with the orifice of the foetal uterus, the harmlessness of the above procedure may easily be accounted for.

In the ordinary condition of the external genitals, during any of the more usual positions of the body, the orifice into the vagina is actually valved or closed by the apposition of the respective surfaces of the part: and therefore in examining for the hymen, in cases of rape, or for purposes of professional opinion or treatment in many other cases, it will be necessary to separate the labia, and even the thighs, to a considerable distance from each other, before the hymen, IN THE EVENT OF ITS BEING PRESENT, can be distinctly seen. If the subject of such examination has an adequate motive for resisting it, or even for reluctantly consenting to it, she will have it in her power almost entirely to defeat the practitioner's object in instituting it. The author had to perform this duty not many months ago, in the case of a young married woman, who had accused her husband of impotency. The husband denied the charge, and no imperfection of any kind could be detected in the construction of his sexual apparatus. It became an object with the friends of one of the parties to ascer-

tain the truth of the lady's allegation, and she felt herself obliged to submit to professional examination: but under pretence of an extraordinary degree of modesty, which it is probable she did not feel, she submitted to it so awkwardly, and so imperfectly, that the author could not, by any chance or possibility, succeed in obtaining a sight of the hymen, nor of the precise locality where it might and must have been situated. He soon, however, found what equally decided his opinion; viz. that he could introduce TWO FINGERS TOGETHER into the vagina, with the greatest facility. It is more than probable that the lady was not a virgin. In another case, a very young lady had been induced by her friends to receive the addresses of and eventually to consent to be married to an old gentleman who had resided many years in India. The lady was observed to droop and to become exceedingly depressed in her spirits in the course of some months after her marriage. At length, in consequence of some gross conduct of which her husband had been guilty towards her, in reference to another gentleman, she was induced to make her mother confidentially acquainted with the unhappy subject which had preyed on her spirits since her marriage. She stated, and truly stated, that she was yet a virgin. In the instance of this young lady, though most becomingly retired and modest in her demeanour, no airs of supreme and intangible continence were assumed to defeat the object of the professional inquirer into the facts of her case. She had no motive for deception. Her case was truly as she had represented it. At the period of the investigation she had been married four years; but she was then as much a virgin as on the day of her birth.

The structural material of the hymen seems in some measure to vary in different cases as to the intimate nature of its constituent tissue. In most foetal subjects it seems to be distinctly membranous, whilst in some others it partakes also to a certain degree of a carneous character. See the different preparations on this subject in the obstetric department of the Museum of Anatomy in the University. Hence probably the very different descriptions given of the hymen by different authors. By Soranus it is accordingly described as being membranous; by Avicenna, as veinous and ligamentous; by Riolanus, as carneous; by Berengarius, as retiform, consisting of vascular and delicate ligamentous tissue; by Columbus, as a thick substance; and by Spigelius, as partly carneous and partly nervous. De Graaffe ad locum.

In all cases, and of whatever structure it may principally consist, the hymen is so far vascular in its original construction, that its rupture is inevitably attended with an extravasation of blood. But it may be ruptured, it is obvious, by other causes than by the first sexual approach; or it may be variously affected, or even absolutely annihilated, by diseases totally unconnected with any passions or peculiar functions of the sex. It is therefore manifest, that any imperfection in its form, or even its entire absence, should not be received as an ABSOLUTE proof of lost or violated virginity: whilst, on the other hand, there is abundance of evidence recorded which goes to

prove, that its presence has co-existed with sexual impurities of diverse kinds, AND EVEN WITH THE EXISTENCE AND DEVELOPMENT OF GESTATION ITSELF. The fact of the ORDINARY presence of a hymen in the virgin state of the parts is, however, so general and unquestionable, that the knowledge of it, and of its bearings upon the rights and privileges of connubial life, has operated as a sufficient inducement with certain legislators of ancient times, to have enacted very severe and highly penal statutes in protection of the strictest fidelity of married and the inviolable purity and virginity of unmarried females. For some of the Jewish enactments on this curious subject, see the 22nd and 24th chapters of Deuteronomy. Some of the laws of Christian Russia, and of other countries where the Greek religion prevails, are scarcely less severe and sanguinary; whilst the voluptuous Mahometan has not been totally inattentive to the interests of feminine virtue, nor negligent of its reputed identity with the preservation of an unruptured hymen as a proof of its existence.

When the hymen suffers rupture, its lacerated remains contract towards their bases into small carunculous bodies, which, from their fancied resemblance to leaves of myrtle, have been called *carunculæ myrtiformes*. The caruncles which are situated at the orifice of the vagina, are not however always remains of the hymen. On the contrary, the greater part of the circle at the basis of the hymen, when that structure remains, and at the same locality when it has suffered rupture, may occasionally be seen studded with caruncles of different origin: such extra caruncles in some cases being few and small, but in others large and numerous. In one case, which was that of a young lady of unquestionably good character, who, in consequence of some irregularities imputed to a gay husband, to whom she had been recently married, became the subject of a professional examination of these parts, there presented at the orifice of the vagina on either side, and in immediate contiguity to the carunculous remains of the hymen, two large multifoliated masses of structure, disposed in parallel layers, in such a manner as scarcely to fail to suggest the idea of a pair of epaulettes.

The only obvious uses of the hymen, and of its remains or accompaniments the *carunculæ myrtiformes*, are to narrow the capacity of the external orifice, and to secure the vagina against the intrusion of nuisances of whatsoever kind, as also against the sudden, forcible, or premature invasion of the sacred rights of sexual purity and connubial fidelity.

The structures which more especially form or are more immediately contiguous to the *os externum*, are liable to all the diseases of the external genitals of which the author has recently treated. The only subject of further practical inquiry incident to the pathology of the hymen which remains to be considered, is what may be expressed under the designation of malconformation. The hymen, as we have already seen, is usually a thin membranous substance, not requiring any extraordinary force to effect a solution of its continuity. But there are occasional exceptions to this rule. It sometimes happens, though

very rarely, that the ordinary means fail to effect a passage through it. In such cases it has been found to exhibit an unusual degree of firmness and thickness of substance. The remedy is to extend the natural aperture in it, by making one or two incisions from its boundary line, directly through its substance towards its periphery or base on either side, or in any other direction as the case may specially indicate. But cases have sometimes occurred of so much narrowness of the orifice of the vagina, subsequently even to the rupture of the hymen, that connubial intercourse has been attended with extreme difficulty and suffering. The author was once consulted in a case of this kind by an old friend and fellow-collegian. That gentleman had married a lady of fortune, and of considerable pretensions to beauty. She was a fine woman in figure, feature, and complexion. She was about eight-and-twenty or thirty years of age. But on account of an unusual confinement of the os externum, the marriage was not consummated for some weeks subsequently to its public celebration; and though its consummation was eventually accomplished, the repetition of the connubial rights had never been claimed by the husband, without occasioning to the lady the most intense pain, accompanied or speedily succeeded by faintings and hysterical affections. This state of things continued, notwithstanding that in the mean time various mechanical means were employed to effect an enlargement of the vaginal aperture, until at length conception took place; nor, indeed, did even that event make any important difference in the state of the case. During the latter months of gestation, parturition was anticipated with great dread. The lady was confined at her country residence, at the distance of eighteen miles from London, where she was attended by the matron of a lying-in-hospital, recommended to her by the author. She sustained a very severe labour of thirty hours' duration; but was finally delivered of a living child, and without becoming the subject of the slightest injury of the rigid outlet of her vagina. But the most remarkable part of the history is yet to be told; viz. that THE HUSBAND EXPERIENCED NEARLY EQUAL DIFFICULTY AFTER HIS WIFE'S RECOVERY with what he had experienced before, and that it was not till after she had borne him a second son that all the inconvenience ceased. Analogous in many points to the above case, is one which was published in 1712, in *L'Histoire de l'Academie des Sciences*, p. 35, by M. Antoine de Mery sur Seine. A young woman, who was married at the age of sixteen, had the misfortune of being the subject of so contracted an orifice of the vagina, that scarcely the end of a goose-quill could be made to enter into it. It was not, however, made up, as it sometimes is, by an imperforate membrane. The catamenial function was regular in its periods, but the secretion was eliminated very slowly and with more than ordinary suffering to the patient. It was the opinion of M. Antoine, for what reason is not stated, that the vagina was still narrower at its uterine extremity than at its external orifice. Moreover, she was tormented by a young and vigorous husband, who ever hoped to force a passage into the vagina, but never could succeed. For

obvious reasons she was very desirous of obtaining a remedy for these inconveniences. But she found none. No operation was practicable, since there was not a membrane to be made the subject of an operation. At length, after the lapse of ten years of married life, the fates became more propitious to the lady's hopes. She became actually pregnant; although the husband had not been able to advance further than during the first month of his marriage. M. Antoine received the first intimation of his patient's pregnancy with great alarm, as it became his firm persuasion that she never could be delivered. Nevertheless, towards the fifth month of gestation, the vagina became in some degree dilated; and this development increased from day to day, until, at length, it acquired the natural and ordinary amplitude. M. Antoine considered, that in proportion as the uterus became developed by the growth of the fœtus, so also the vagina, which is but the continuation of it, became developed from the same cause, viz. an increased determination of blood into the uterine system generally. In the obstinate rigidity of the os externum, which continued throughout the whole period of gestation in the one, and the kindly disposition to gradual development of the same structure in the other, there is obviously a total failure of analogy between this and the immediately preceding case.

The absence of a hymen, and an extremely contracted external orifice of the vagina, is a condition of these parts, which it is to be presumed may not unfrequently have been mistaken for imperforate hymen. A case of this description came very recently within the cognizance of the author. The subject of it was a valued servant of Mrs. Wilson of Gower-street North. She had laboured for many months under symptoms of irritation of the uterus. It became therefore an object to ascertain by the taxis the condition of that organ. That object, however, was defeated by reason of a deficiency of the ordinary aperture into the vagina. This fact was reported to the patient, and to the person who accompanied her; and a day was appointed for a future visit, when the state of the part should be more particularly examined, and a remedy, if practicable, applied. Accordingly, on the third day, subsequently, a minute examination with the eye was had recourse to. The general surfaces of the vulva presented the usual conformation, and there appeared nothing wanting but the usual orifice into the vagina. But it was a part of the history of the case that the patient had menstruated regularly, though rather sparingly and with difficulty. An outlet from the uterus must therefore have existed: and after trying at every appearance of crevice and even of every orifice of a mucous duct which might possibly communicate with the vagina, with much patience and perseverance, a minute aperture into the vagina was at length discovered. This opening, which was afterwards ascertained to be large enough to admit the interior tube of a double female catheter, was so curiously and so completely filled up by a DELICATE CARUNCULOUS VALVULE, that not a trace of it could be detected by any ordinary examination with the eye. Whether the conformation now discovered had been congenital or not, was a problem which no existing

circumstances could solve. The patient had no recollection of ever having been the subject of any diseased condition of the external genitals. The aperture was enlarged by the very gradual but forcible introduction of a blunt bodkin into it, and afterwards extended by forcibly opening within its parietes the purchase part of a pair of polypus forceps. Sufficient room was thus obtained for the introduction of the finger into the vagina, in order to arrive at a correct knowledge of the fact first sought to be ascertained by examination per vaginam, viz. the state of the uterus. The vaginal portion of that organ was found greatly elongated, considerably indurated, and exquisitely painful to the touch. The parietes of the new or extended aperture into the vagina healed kindly. See a parallel case recorded by Mauriceau, tom. ii. observ. 583, p. 481.

Another variety of malformation of hymen, is that which has received the designation of cribriform. As the name implies, the hymen of that variety is perforated by a number of apertures like those of a sieve. A cribriform hymen is also in most cases exceedingly strong, and unrupturable by the common means. When the means alluded to have failed, and no remedy has been sought, it has generally been made a matter of unavoidable inference, that impregnation was impossible. It is, indeed, obvious, that in such cases conception must be rather a rare occurrence. Its possibility, however, has been attested by an ample number of well-attested histories. A remarkable case of this description was usually narrated in his peculiarly terse style by the late Dr. Haighton, in his lectures on midwifery in Guy's Hospital. The subject of it had been the lady of one of the physicians to that or to the neighbouring hospital of St. Thomas. It was become matter of post-mortem history, even in the time of Dr. Haighton. The hymen was perforated by many small apertures; but it nevertheless was so strong, that it had resisted all the efforts of the husband to effect its rupture. That gentleman, however, concealed his chagrin; nor did he take any means to accomplish artificially, what he had failed to effect by the ordinary means. Under these circumstances, the lady drooped and became unhappy; but she also at no distant period became the subject of faintings and sickness, and eventually of great abdominal enlargement and of anasarca of her lower extremities. During the urgency of these symptoms, she was advised to go to Bath for the benefit of the waters, and of the other good things to be obtained at that celebrated city. No remedy was found, however, even there, for the lady's dropsy; and the symptoms became more and more urgent every day. Finding no relief at Bath, and giving up all hope of recovery any where, she determined, after a residence of some weeks at that place, to return to London, in order that her remains might the more conveniently be deposited in the monumental vault of her family. Whilst on this journey, which she was performing in a post-chaise, she was seized with a severe abdominal pain, which she naturally enough ascribed to a spasm of the intestines. This colic, which was moderate and bearable at the commencement, became so extremely violent in its progress, that she was obliged to stop suddenly at an inn on the road, where, in less than

an hour, she was radically cured of her dropsy, by becoming the mother of a well-grown living child. The hymen was then ruptured without the assistance of art. Similar results have occurred in cases where the hymen has been perforated only by one minute aperture. The author may be permitted to mention a case of this description which occurred in his own practice, and which may be found already published in the last edited volume of the Transactions of the Medical Society. It was communicated to that Society by the late amiable Dr. Squire. The case was that of a patient of the Royal Maternity Charity. The subject of it had been in labour for many hours when the author first saw her. She had been attended by a midwife, and also by several of Dr. Squire's senior pupils. The old gentleman himself had paid her one or two visits. Nothing, however, very distinct had yet been made out beyond the mere fact that the patient was in labour, and presumably in a dangerous state for WANT OF A PASSAGE. After a careful examination, with the eye, of the part which occupied the proper locality of the hymen, but which bore no resemblance to the ordinary structure of that membrane, a very minute aperture was discovered, through which, it had been ascertained, the patient had regularly menstruated. The head of the child could be felt presenting within a very short distance of the part in question, and the perineal tumour was beginning to be formed. The late Mr. Taunton, of Hatton Garden, was requested to make a crucial incision through the obstructing tissue. In the course of a few hours subsequently, a well-formed living child was born; and after the lapse of three or four more hours a second child, and both without any further assistance of art than what Mr. Taunton had already contributed.

About six years ago, an unmarried female, a resident of this town, was suspected by her friends of being pregnant. The advice of an eminent practitioner of midwifery was taken in her case. That gentleman, finding the hymen unruptured, and depending perhaps too unreservedly upon the strong asseverations of the lady herself, gave his opinion, without sufficient qualification, that the case WAS NOT ONE OF UTERO-GESTATION. In the course, however, of not many weeks afterwards, the person in question was delivered of a living child. It is probable that upon cases of this description, that is, cases of cribriformed and other varieties of extremely contracted states of the vaginal orifice, has been founded the absurd notion entertained by Harvey, Hildanus Van Swieten, Ruysch, and even our contemporary Mr. Burns of Glasgow, that conception might be possible, notwithstanding the presence of an imperforate state of the os externum.

Among the morbid effects of an actual and perfect absence of an aperture into and from the vagina, ONE OF THE PRINCIPAL is the retention of the menses after the accession of the age of puberty, and subsequently to the due establishment of that secretion as a function of the uterus. From the great number of cases of this description which we find recorded, it becomes a matter of inference that this variety of malformation is not one of very rare occurrence. Its existence is seldom however known till the age of puberty. At that period the symptoms incident to the first appearance of the catamenia present them-

selves. The same symptoms return again and again at intervals of a lunar month, in strict correspondence with the returning nîsus of the catamenial function, of which they are the natural accompaniments and results. The menstrual fluid is thus actually secreted month after month; and being secreted by the uterus, it naturally distils into the vagina. But that passage being hermetically sealed at its lower extremity, the secreted fluid is necessarily retained within it, subject only to inspissation, and to some diminution as to its quantity in consequence of the action upon it of the absorbents of the vaginal parietes. By the monthly accession to its volume, the vagina becomes gradually distended, so as eventually to acquire a prodigious size, and to become a mechanical cause of disturbance to the functions of the contiguous organs. After a further lapse of time, the catamenial function continuing to be performed with its natural vigour, the secreted fluid finding no room within the vagina, is compelled to accumulate within the neck of the uterus, by which the narrow passage through the cervix becomes distended, and eventually considerably enlarged, in proportion to the increasing pressure applied to it by its periodically accumulating contents. At length the proper cavity of the uterus is made available to the constantly increasing demand for space, and becoming ultimately the subject of a scarcely measurable extent of enlargement, that organ is thrown into a state of strong expellent action. The expellent power, it is well known, is called into active operation at no absolutely certain period, even in cases of gestation; whereas, when distended less naturally by other causes, the uterus becomes the subject of the action in question at periods still more uncertain. Hence some of the subjects of such accumulations are seized with violent expellent pains of the uterus, at a comparatively early stage of its enlargement; whilst in the instance of others, the pains do not supervene for many months subsequently to the commencement of its morbid development. Cases of this description present so many circumstances of resemblance to those of true pregnancy, that a correct diagnosis is a matter of no less importance to the credit of the practitioner than it may be to the character of the patient. The abdominal enlargement is remarkably similar to that of natural gravidity. Like it, it occupies the anterior portion of the abdominal cavity. It presents the same character of feel as to resistance and hardness as is given by the pregnant uterus. It is an enlargement which gradually ascends from the pubis upwards in the direction of the scrobiculus cordis. It is accompanied by no distinct fluctuation of fluid within the cavity of the abdomen as in ascitic dropsy. On the other hand, no milk would be found secreted in the breasts in a case of this kind, nor any deeper colour of the areolæ round the nipples, than might be properly accounted for by the peculiar complexion of the subject. No limbs of a child could be felt through the parietes of the uterus; nor in any position of the patient, nor by any mode of external examination instituted by the practitioner, could any motion like that of a living fœtus be made cognizable to either. One leading and important fact would naturally present itself to attention and close investigation;

viz. that of the non-appearance of the catamenial discharge at any period antecedently to the date of the consultation. To that fact it would of course be natural to add any collateral statements of the patient's friends, in evidence of the periodical occurrence of the constitutional symptoms experienced by her as already described. The ultimate and only decisive tests of the true diagnosis of the case would, however, be an examination of the external genitals with the eye, and subsequently of the state of the uterus per vaginam. But the first movement towards the performance of that duty, would at once lead to a full discovery of the nature of the case. The probable absence of communication between the vulva and vagina would be ascertained by the taxis alone; whilst the eye of course could not fail to confirm the report of the other sense. The hymen has generally been found, in such cases, in a state of great tension, like the parietes of a blown bladder. When of membranous structure, and not extremely thick, the effused catamenial fluid has been seen to shine through it, and to have imparted to it a black reddish colour. In some cases it has been found prodigiously developed, pressing against the labia on each side, and projecting even to some inches beyond their level anteriorly. The perineum in the meantime becomes greatly distended, so as to simulate the remarkable fulness which it presents when put upon the stretch during the latter stage of natural parturition. The hymen thus enormously distended, has sometimes been mistaken for the membranes of the ovum; whilst in other cases it has presented, in consequence of long exposure to the action of the air, and to that of friction from the patient's dress, the characteristic appearance of the browner and rougher surfaces of the body, which are naturally covered by the ordinary epidermis. This tumour has occasionally acquired, by gradual accumulation of its distending cause exclusively, an enormous volume, independently of all increase of magnitude, which it cannot fail to receive from the expellent action of the uterus, which nature has not unfrequently instituted as a means of forcibly effecting her own emancipation and relief. The treatment to be adopted in all the distressing cases of this description is, happily, equally simple and obvious, and consists in making a crucial incision through the distended hymen. Before the operation is undertaken, a proper vessel should be in readiness to receive the contents of the tumour. The accumulated fluid has been sometimes observed to escape with an extraordinary impetus, and to amount in quantity to eight or ten pounds. More frequently, however, its amount has not exceeded four or five pounds. The consistence of the retained secretion, in consequence of the absorption of its more fluid part, is that of thickish grume, or that of the half-coagulated blood, sometimes to be observed in the larger veins of a dead body; or, as others describe it, that of ordinary treacle. Its colour is that of darkish brown; but probably varying in different cases, as it certainly did considerably vary in the only two examples of cases of this kind which ever came within the cognizance of the author. Some writers have represented the accumulated mass, immediately upon being set at liberty by the operator's scalpel or lancet, as presenting a most fœtid

odour. In other, and the great majority of cases, their narrators distinctly state that they encountered no OFFENSIVE SMELL WHATEVER. The operation has sometimes been followed by severe constitutional symptoms. In such cases, free venesection and other antiphlogistic indications should be especially had recourse to. One item of treatment should in no case, nor on any account, be omitted; viz. that of well cleansing out the soiled parietes both of the uterus and the vagina, by frequent and forcible injections of warm water. Soaped water in some of the more offensive cases, or medicated solutions or infusions, will occasionally more effectually meet our indications. In the greater number of cases the obstructing medium, whether membranous or carneous, being only of moderate thickness, the operation is easy and simple. When presenting, however, a greater thickness of substance, as was the fact in Dr. Cormack's case, as published in the second volume of the Medical Commentaries, edit. 3, p. 187, other methods must be adopted, the use of which will require a precise knowledge of the parts. In that remarkable case, the inferior part of the vagina was plugged up by A SOLID MASS OF FLESH. "It was therefore thought advisable to pass up a small canula enclosing a perforator; which was accordingly done in the direction of the vagina, to the height of three inches. Nothing however appeared. The instrument being pushed up an inch further, some thick black grumous blood issued out. A larger instrument was then introduced, and a discharge to the amount of four or five quarts ensued without any offensive smell. In three weeks the vagina was sufficiently dilated by the use of tents, dossils, &c., and menstruation went on naturally. In a year afterwards the patient was married; and she subsequently became the mother of three fine children." Another variety of imperforation, is that of two septa of strong carneous tissue stretching across the vagina. Ruysch, tom. i. obs. 22, a case which of course will require a corresponding operative treatment. For additional examples, and other varieties of closure of the vagina, the following references may be consulted with much interest and profit. *Journal de Médecine*, the first publication of that name, tom. xxxiii. p. 501 et 512, vol. lxiv. p. 252. A case of contracted orifice of the vagina, in consequence of previous use of the forceps. *Lond. Medic. Repository*, vol. i. p. 461. An interesting case, with several references to others, by M. Brady. *Journal de Médecine*, by Corvisart, vol. xiii. p. 29. Smellie's Midwifery, Collect. ii. c. 3, 4, 5, 6, with another case which he quotes from the practice of Dr. Macaulay. Corvisart's *Journal*, vol. xviii. p. 189, vol. xx. p. 231. Case of a very small aperture in a child of four years old. Mauriceau, tom. ii. obs. 172. Another of imperforate hymen relieved by an operation, tom. ii. obs. 231. An interesting case of imperforate hymen, by M. Coiffier, of Chatteaudum. *Journal Générale de Médecine*, tom. ii. p. 284. Case of pregnancy, and accession of parturition without rupture of the hymen, with strictures on the conduct of the young lady who was the subject of it, by M. Baudelocque. *Translation of Baudelocque's Midwifery*, vol. i. p. 217.

Case of retention of the menses, by a double congenital obturation of the vagina, by M. Delisle. *Journal Générale de Médecine*, tom. lxvi. p. 94. Case of imperforate hymen, transferred from *L'Histoire de la Société Royale de Médecine* of 1776, into the *London Medical Journal*, by Simmons, vol. iii. p. 159. Case of stricture high up in the vagina, by Aug. G. Richter. *Comment. Societat. Regiæ Scient. Götting.* 1780-1781. Case of obstructed parturition from imperforate hymen, entitled by its contributor, "De conceptione fœminæ cujusdam plebeie rarissima." "It terminated happily," the author states, "both for mother and child, and the husband was afterwards enabled to celebrate his connubial rights within the temple of Hymen." *Ephemerid. Germanicarum*, dec. iii. p. 146. Another, by D. Joh. de Muralto, dec. ii. an. 3, p. 296. A similar case by Heister. *Commentarii de Rebus in Scient. Natural. et Medic. gestis Lipsiæ*, 1755, vol. vi. p. 680. One also by another contributor to the same work, vol. ii. p. 134. One, by Birnsteil, which was accompanied by a distressing dysury. *Commentarii, &c.* vol. xxxii. p. 707. Contracted, and apparently imperforate external orifice of the vagina, from coalescence of its lateral parietes, in consequence of a difficult labour. This case supplies a useful illustration of the fatal results incident to the use of specula matricis. *Lowthorp's Abridgment of the Philosophical Transactions*, vol. iii. p. 221. A case of suppression of urine, occasioned by the menses being retained in the vagina, and pressing upon the neck of the bladder and urethra, the consequence of an injury from difficult parturition. *Supplement to Reid and Grange's Abridgment of the Philosophical Transactions*, vol. vi. p. 62. Obstructed menstruation from imperforate hymen. *Acta Physica Medica, &c., Norimburg*, 1757, tom. i. p. 343. A similar case. *Saviard's Surgery*, translated by J. Sparrow, p. 7, obs. 4. Another case, with a curious reflection on certain presumed practices of the young person who was the subject of them. *Saviard's Surgery*, p. 72, obs. 32. A case of violent expellent action of the uterus, continuing for eight days. The obstruction was finally relieved by an operation. *Ambrosii Paræi de Hominis Generatura Gynæsiarum, &c., apud Spachium, Argent.* 1597. A case of suppression of urine, in consequence of a swelling which pushed down at the os externum relieved by a crucial incision. *Medic. Comment.* for 1788, decad. ii. vol. iii. p. 278. Similar cases successfully treated by incision, in *Medic. Comment.* vol. iii. decad. i. pt. 2, p. 194, and vol. ix. p. 280. Similar cases and similarly treated, in *Duncan's Annals of Medicine*, vol. ii. p. 331, and vol. i. lustr. 2. p. 347.

There is one extraordinary variety of the malformation of which we are now treating which has been more than once recorded, and of which, by reason of its very curious and peculiar circumstances, the author feels it his duty to present his reader with a detailed example. "A woman thirty-two years of age became pregnant for the first time, and arrived at her full period of gestation. The pains of labour came on, and according to the account of the midwife, lasted three days without producing any disposition on the part of the external

orifice to become dilated. M. Champion was consulted. Upon examination he found that the vagina was made up by a firm thick hymen perforated only by two apertures of about the diameter of a pin's head. The meatus urinarius was rather lower than usual, and into it M. Champion could easily introduce his fore-finger as far as the bladder. From this he inferred, that the husband not having been able to force the hymen, had mistaken the urethra for the vagina. He made a crucial incision through the hymen, and almost immediately afterwards two children were brought into the world. The first, a male, which presented itself naturally, was extracted by the forceps, and the other a female, was withdrawn by the feet. When this woman was advancing towards the age of puberty, she was the subject of a tumour of her right iliac region, which probably was ascribable to catamenial obstruction; but which was attributed at the time to the supposed presence of a stone in the bladder. She was accordingly sounded; but no calculous formation was discovered; whilst nevertheless, no imperfect conformation of the hymen was detected. The menses had however always been eliminated with great difficulty and by drops. Some of the circumstances of the above case induced M. Champion to believe that the sexual congress by the urethra had taken place subsequently to the conception. The labour took place within ten months after marriage. The acute pains which the subject of the present narrative sustained in her first cohabitation, obliged her to separate from her husband, who consequently conceived suspicions of her conduct, which she could only remove by delivering herself up to his discretion. By submitting, however, to his will, she suffered extreme tortures and it was not till the fifth month of her pregnancy that he could effect the introduction of his entire penis. Quoted from *le Journal Universel*, No. xli. p. 241. *Journal Générale de Médecine*, &c., tom. lxxviii. p. 84.



CHAPTER IV.

OF THE STRUCTURE, FUNCTIONS AND DISEASES, OF THE INTERNAL GENITALS.

VAGINA.—VAGINA UTERI, OSTIUM UTERI.—This is the sexual passage which stretches between the vulva and the orifice of the uterus. It is cylindroid in its figure, cellulo-membranous in its texture, and relatively situated between the bladder and anterior boundaries of the pelvis in front and the rectum behind. It is attached to the rectum posteriorly, by a considerable thickness of dense cellular membrane, so as to form with the portion of it so mutually connected, a sort of party wall, common to both passages, which is known by the designation of recto-vaginal septum. The anterior portion of vaginal parietes, through which the urethra is transmitted, consists likewise of a similarly condensed cellular tissue. Anteriorly therefore, as well as posteriorly, the parietes of the vagina are remarkably firm and substantial. Throughout their whole extent they are admirably susceptible of development, according to the demands for space which are made upon them on the part of the several functions which the organ has to sustain. The internal surface of the vagina is lined with a mucous membrane, which is remarkable for the peculiarity of being much wrinkled or puckered together into shallow irregularly transverse folds, called rugæ. These rugæ of the vagina are admirably represented in the inferior part of the drawing, marked d, pl. viii. fig. 3. Interspersed among these rugæ, and immediately beneath the epithelium of the surface, are situated a great number of minute glands, which serve to secrete several varieties of protective and lubricating fluids, adapted to the special wants and functions of the passage. The particular use of the rugæ is to qualify the vagina for being indefinitely developed during parturition, and subsequently, for the purposes of other functions, to be competent to resume its previous more limited capacity. The dimensions of the vaginal passage are unequal at different parts. Anteriorly its length scarcely exceeds four inches when in a state of repose; whereas posteriorly it is at least six inches and a half or seven inches. But from its special structure, consisting as we have seen it does so principally of cellular tissue and distensible mucous membrane, it is almost indefinitely capable of accommodating its length in common with all its other dimensions to the various demands which are made upon it by its several varieties of functions. The narrowest part of the vaginal passage is its inferior extremity; where, in its virgin state, it is rendered still more

contracted by the presence of the hymen. It is most capacious about its middle, and the part immediately above its middle; whilst at its superior extremity, where it is attached to the vaginal portion of the uterus, it becomes again considerably narrowed. The uses of the vagina are multifold. It forms the passage into and out of the uterus. Even in the infant subject it is sometimes required to become an eliminating passage for the escape of morbid secretions from the uterus. It is in the adult subject the outlet by which the menstrual secretion is discharged from the system agreeably to the laws of that function; it is, moreover, almost exclusively the medium of communication between the sexes on the part of the female. It is the passage through which the fruit of conception has to be transmitted at the full or at any period of gestation. It is the great excretory tube by which the lochial discharge, and all other fluids, whether healthy or morbid, as well as all false conceptions, hydatid, and all other kinds of diseased formations of the uterus, as well as in some rare cases, indirectly, from the cavity of the abdomen, and from cysts containing fluids, which in the progress of organic diseases, open for themselves routes of communication, sometimes by ulceration, and at other times by forcible distension of parts with the interior of the uterus, and ultimately with the vagina. It thus becomes the great outlet in the female of all sexual, and of a very great number of morbid impurities. Its blood-vessels, nerves, and lymphatics, will be noticed in connexion with those of the uterus.

OF THE DISEASES OF THE VAGINA.—Introductory to the diseases and diseased conditions of the vagina, it has been a common practice with pathologists to enumerate the more important varieties of imperfect development and congenital malformations to which it has been found liable. Of these, one of the most remarkable examples of nature's wanderings from her ordinary laws of formation, is that which consists in the entire absence of the vagina. Cases of this defective conformation are not numerous. But they are sufficiently numerous to establish the fact of their existence. They sometimes present themselves singly, without being complicated with any deficiencies of other organs. In other cases, and indeed most frequently, they are found combined with the absence of the uterus, as also with that of one or more of its appendages. *Journal Générale de Médecine*, &c. tom. xliii. p. 54. et 63. Simmons' *Lond. Medical Journal*, vol. ii. p. 178, a case of the absence simply of the vagina which occurred in the practice of M. Meyer, and is extracted by Dr. Simmons from Schmucker's *Vermischte Chirurgische Schriften*. Berlin. The absence of the vagina is a malformation which occurs most frequently in extreme monstrosities of the sexual organs. In many cases, however, of that description, some indication of its locality is presented: but upon accurate examination, no passage, or only a very small portion of a vaginal passage, is found to exist. In some cases of defective development of the uterus, there has also been the entire absence or a defective development of the vagina. When in those cases there has been any amount of vaginal

passage at all, it has rarely exceeded an inch or an inch and a half in length, and has usually terminated in a cul de sac. Baudelocque's *Midwifery*, translated by Heath, vol. i. p. 215. *Journal de Médecine*, tom. lxxi. p. 274. *Mémoires de la Société Médicale d'Emulation*, tom. ii. p. 470. *Comment. de Reb. in Scient. et Med. &c.* 1779, tom. xxiii. p. 145. Of this variety of defective development was also the case of the porter's wife, quoted by Morgagni in his work *De Sedibus et Causis Morborum*, epist. xlv. art. xx. et xxi. In that remarkable case, the external parts of generation were very small. The nymphæ and clitoris especially, were exceedingly diminutive. There was scarcely to be seen a trace of hymen. The entry into the vagina was so small as to seem never to have been of sufficient capacity to admit of connubial intercourse; inasmuch as "it certainly did not equal the dimensions of the middle finger in any direction." The breadth of the vagina, when opened longitudinally and displayed, was scarcely more than that of two fingers, and its length not equal to that of four. There were no rugæ upon it. The parietes of the uterus were extremely thin, and the entire organ was so small in all its dimensions, that it appeared not to have acquired any increment of bulk since the birth of its subject. There were no ovaries, a deficiency to which may reasonably be ascribed the imperfect development both of the vagina and of the uterus.

Defective development of the vagina has sometimes occurred in persons well conformed as to their other genital organs. Dr. Denman quotes a case of so much rigidity and contractedness of the vagina, that its diameter did not exceed six lines, nor its length an inch and a half. The repeated and ineffectual attempts which had been made to accomplish the ultimate act of the marriage contract had occasioned considerable inflammation of the genitals, and excited suspicions for which there was no actual foundation. After removing the inflammation, Dr. Denman had recourse to the use of tents, which he introduced into the vagina, and of which from time to time he gradually increased the size. When by this cautious procedure the part had acquired a certain amount of capacity, the husband was permitted to renew the efforts incident to the peculiar obligations of his case. In a short time afterwards the wife proved pregnant. Her subsequent labour, though slow, was not accompanied by any extraordinary difficulty. Dr. Baillie, *Morbid Anatomy*, p. 431, edit. 5, in noticing the occasional brevity of the vagina, states that he had seen it of not more than half its natural length; and Morgagni observes that, in many of the cases of females whom he had inspected after death, and in whom the catamenial function had never manifested itself, he found the vagina had terminated in a cul de sac. *De Sedib. et Caus. Morb.*, epist. xlv. art. xii.

The opposite states of an entire absence of the vagina, are, first, an inordinate capacity of it, which in connexion with its causes will present itself for future notice; and, secondly, the occupancy of the space usually allotted to it by two distinct vaginal passages. The latter peculiarity of conformation will be more especially adverted to during the discussion of the subjects, respectively, of

double uteri and supra-foetation. The treatment proper to be observed in cases of defective development of the vagina will, it is obvious, require a very deliberate consideration of the precise nature of the particular case to be treated. The total absence of the passage would of course admit of no remedy, nor would it probably ever require any: inasmuch as in a majority of such cases, the ovaries, or the uterus, or both, have also been absent or insufficiently developed. When the vagina is preternaturally contracted at its inferior orifice, but sufficiently perforated to admit of the catamenial evacuation, no interference of art can be absolutely necessary until marriage is either negotiated for or contracted. In the event of any unusual conformation of the parts being known to the parents of any young lady who might herself be induced to listen to a proposal of marriage, it would be an act of justice towards the party distinguishing her by such an expression of his preference, that she should submit to a full professional inquiry, and even to personal examination, before the final arrangement was concluded.

In cases simply of an imperforate or cribriform state of the hymen, it has been already seen that the remedy is to be sought in a very simple operation, consisting in a crucial incision of that membrane. In cases however of coalescence of the opposite sides of an inferior portion of the vagina from accidents or disease; of which there are numerous recorded examples; the application of the proper remedy, which would also probably be to be sought in a surgical operation, might be attended with more difficulty. Cohesions of these surfaces, in consequence of trifling accidents or of slighter degrees of inflammation, usually admit of being again separated without extraordinary difficulty, and without danger of inflicting any further injuries. When, on the contrary, very extensive obliteration of the passage, accompanied by great loss or destruction of structure from sloughing has been sustained, surgical operations should be undertaken with great caution; and when undertaken, should be performed with the best skill and the most perfect knowledge of the anatomy of the parts. In cases of great CONGENITAL BREVITY of the vagina, our art can furnish no remedy; and in the event of such a state of things occurring to a married female, the medical attendant would have to intimate his advice EXCLUSIVELY TO THE HUSBAND. In cases of combination of great narrowness with more than ordinary brevity of the same passage, the proper indication of treatment is that which was adopted by Dr. Denman in the case already alluded to; viz. that of the use of tents made of sponges or other suitable materials. In the event of impediments from transverse septa, or accidental cohesions of the opposite surfaces affecting MIDDLE portions of the vagina, as in that of the double impediment mentioned by Ruysch, vol. ii. obs. xxii., a corresponding treatment will be found necessary. Ruysch's patient was the subject of an unruptured hymen, and in that state of an impeded labour. By means of a grooved director and a pair of scissors, that great anatomist made an incision through the hymen: but the delivery still not taking place, and the head of the child not coming down low enough to bear

upon the external orifice of the vagina, he carried his examination farther, and encountered another thick membrane higher up in the passage, which had the effect of completely obstructing it, and of preventing the further descent of the foetal head. This second membrane was also incised, and the patient was soon after delivered of a living and healthy child. She experienced a very speedy and perfect recovery. Ruysch was of opinion that this second membrane was the result of the application of an acrid humour subsequently to conception. A case somewhat similar to that of Ruysch is given in Leroux's *Journal de Médecine*, vol. xxxvii. p. 215, by M. Lemonnier. In the latter case the obstructing septum was situated within the vagina, an inch and a half from the orifice. Its direction was from above and from before, downwards and backwards. It was of rigid structure; thicker in front and immediately behind the pubes, and thinner and more depressed towards the sacrum. On the left side and posteriorly, there was a small aperture sufficient to admit a catheter, which indeed had been of sufficient size, notwithstanding its smallness and situation, to furnish a passage both to the menstrual fluid, and to the semen masculinum. The patient having been in labour for several days when M. Lemonnier, in consultation with several other distinguished practitioners, both physicians and surgeons, was first requested to visit her, it was considered expedient as speedily as possible to remove the impediment by a surgical operation: which with some difficulty was accordingly forthwith performed. The patient's strength however having been much spent, it became eventually necessary to effect her delivery with the forceps. The child was brought into the world alive, and the mother recovered well and speedily. In the course of M. Lemonnier's communication, a similar case is referred to as having been reported by Tretzelius, in a dissertation, entitled *Historia Partûs Impediti*, &c. Comment. Götting. tom. iii. p. 148. Among obstructions to the due performance of the functions of the vaginal passage are extreme contractions of its diameter, independent of any septa, frœna, or immediate connexions of any other kind of opposite portions of its parietes, as well as of any known causes applied to it from without, whether from accident or disease. In the greater proportion of such cases the function of procreation has been possessed in its fullest extent; but that of parturition has been rendered doubtful, and sometimes perilous. Many cases of this description have been reported by obstetric writers; which however by reason of the unquestionableness of the fact of their occurrence, it might seem unnecessary more particularly to refer to in this place. The author will therefore on this occasion content himself with quoting only one or two examples; of which the first shall be a case which occurred some years ago in his own practice. Its subject was a lady of thirty-nine years of age, whose spine was considerably distorted by an injury which she accidentally sustained during her infancy. When she had been in labour only for two or three hours, she was advised by her monthly nurse, who probably anticipated more than ordinary difficulty, to send for her medical attendant. On the author's arrival,

he found the orifice of the uterus very amply dilated, NEARLY OBLITERATED, and the foetal head presenting favourably. In ascertaining these facts, however, he encountered some difficulty in carrying his finger through the middle of the vagina, where he found it contracted into a very narrow diameter, and presenting such a feel as it might have been expected to present, if it had been bound by a ligature coiled round it on the outside. It moreover felt firm, thick, and rigid. The mother of the patient, being in attendance, reported that her daughter had always menstruated regularly and well, and that she had never been the subject of any known disorder of her genital organs. The affected part gave no evidence of its ever having been the subject of cicatrization. Time and patience, therefore, presented themselves as the principal remedies. The cavity of the pelvis was sufficiently ample. The labour pains became very active in the course even of a few hours, and ultimately exceedingly urgent, accompanied by a tempestuous excitement of the heart and arteries. The patient was bled freely and repeatedly, and the hand was as much used to promote dilatation as was deemed consistent with the soundness and safety of the part to be dilated. She was delivered of a still-born child in about FIFTY HOURS after the commencement of the labour. She recovered slowly but perfectly. She sustained no retention of urine, nor purulent discharges during her convalescence. The loss of an heir to a good property, as it might well be supposed, was not a little regretted. But the disappointment was forgotten, and the loss doubly repaired by the subsequent birth of two living children, both sons.

In some cases of contracted vaginæ a sudden development of them has taken place during labour. In a case reported by M. de la Toison in *l'Histoire de l'Acad. Royale des Sciences*, 1748, p. 48, it is stated that a lady who resided at Brest had so narrow a vagina that it could scarcely admit the barrel of a goose's quill; but that nevertheless she became pregnant, and that at the full period of gestation she was happily delivered of a strong child after only three hours labour. In some other cases of a similar nature, the development in question has been more gradual, occupying several of the latter weeks or months of gestation. A woman who was married at the age of fifteen had the inferior portion of her vagina so contracted, that it could not admit EVEN THE POINT of the index finger when made use of to ascertain the cause of the difficulty encountered by the husband. The taxis gave the practitioner the impression, that about an inch above its orifice it was surrounded by a sphincter muscle of extraordinary power and unyielding rigidity. Notwithstanding the use of sponged tents and bougies for a year and a half, this obstacle proved obstinate and unyielding. At length, however, pregnancy supervened, and at a late period of the sixth month of gestation, the husband was enabled for the first time to advance beyond the barrier which had hitherto impeded his progress. From that time forward, the difficulty gradually abating, the vagina became more and more succulent and developed; and at the full period of gestation, its parietes

yielded to the ordinary impulses of parturition as kindly and unresistingly, as if it had never been the subject of any unusual rigidity.

The competency of the vaginal parietes to sustain an extension of its dimensions, is remarkably well illustrated in the following case; of which the circumstances were not a little unpromising. The wife of a corn-chandler was subject to a severe purulent discharge during her convalescence after her first labour; which had been one of long duration, and attended by great excitement of the heart and arteries. In consequence of certain difficulties encountered subsequently by the husband, he determined that another medical attendant should be engaged to assist his wife during her second confinement; without however giving that gentleman any intimation of his reason for dispensing with the services of the former one. Soon after the accession of labour, the newly-retained functionary was accordingly requested to give his attendance. But on making the examination, usually considered necessary, to ascertain the facts of the case, he found the vagina, about an inch and a half from its orifice, so contracted, that he could not pass his index finger through the contracting ring. On making some inquiry into the history of the patient's former labour, he learned the particulars already stated. As the labour pains were as yet very languid, and it being late in the evening when he was sent for, he gave directions to his patient to take a full dose of castor oil, and left her. He was sent for again early in the morning, when he found that the pains had not been either frequent or urgent since his former visit. The contracted part of the vagina was felt to be somewhat less rigid, and on one side of the ring it was distinctly soft and relaxed. The castor oil had emptied the rectum freely. Nothing further was done in the case till the following evening, when the labour became more active, and the constitutional powers began to sympathize in the increasingly vigorous efforts of the impeded function. The morbid ring was then dilated to the diameter of about half a crown. One side of it continued rigid, thick, and tuberculated; but the other, as before, presented the feel of a kindly softness. The quantity of mucus incident to the function was however sparing, and other symptoms of increasing phlogosis presenting themselves, the medical attendant very judiciously determined to abstract a full quantity of blood. He moreover exhibited forty drops of Battley's liquor opii sedativi; and stayed with his patient during the remainder of the night. At an early hour in the morning, he dispatched a messenger to request the earliest possible attendance of the present reporter of the case. The author, however, having been already sent for to visit another lady at the distance of several miles from London, he was not able to join his friend till about three o'clock in the afternoon. The orifice of the uterus was then dilated to the diameter of about two inches and a half, and the head of the child had descended nearly half way into the pelvis. The excitement of the heart and arteries was considerable, but not intense. There was a good moisture on the skin; and the countenance was upon the whole cheerful. THE MEMBRANES WERE UNRUPTURED. The left side of the

vagina felt hard and greatly thickened; but the other was soft and well disposed to dilatation, when the child's head, propelled by the uterine contractions, bore strongly upon it. It was determined to abstract about a pound of blood, and to postpone, till more preremptorily indicated, any further interference of art. At nine o'clock in the evening, the symptoms were become rather formidable. The pulse was inordinately strong and velocious. The countenance was turgid with blood, and expressive of intense suffering. The patient was moreover become extremely restless and impatient. The liquor amnii had escaped for several hours. But in compensation for circumstances so impressively alarming, the descent of the fœtal head had made considerable progress, and about one-third of its bulk, at least, was clearing the impediment opposed to it on the left side of the vagina: for now the impediment was felt to be exclusively confined to the diseased part of it. But that part occupied no inconsiderable proportion of the ordinary space of the parturient passage. The period was obviously arrived for further interference. But what should that be in order to secure the best and most estimable interests of the patient and her progeny? The author was strongly urged to have recourse to the use of the forceps. But he considered that he was better acquainted with the properties of that instrument than his younger and less practised friend. To make an incision through the diseased part, or any adjoining part of the vagina, seemed also calculated to involve the patient's structures, and even her life in great jeopardy. On the other hand, as the liquor amnii had only escaped a few hours previously, it was more than probable that the child was yet alive. A combination of circumstances more truly embarrassing could not be easily conceived. After some further deliberation and indecision, and it may be added SOME DELAY, it was determined, as an antifinal resource, to take the chances of another full bleeding. The patient was accordingly bled to complete fainting, at the expense of a loss of thirty-two ounces of blood. This important measure determined, it is probable, the ultimate issues of the case. The mighty storm which had attended a few of the latter hours of the struggle was finally laid by it; and after sustaining, with admirable courage and self-possession, some fifteen or twenty more pains, which were distinct, long-continued, and in the particular circumstances tremendously powerful, the patient was happily delivered of a living and well-grown child. Her convalescence was in every respect satisfactory, and the recovery speedy and perfect. The child's head was considerably disfigured by the pressure which it had sustained during its transit through the vagina, and presented on its left side, from the temple to the commencement of the tumified integument on the occiput, a broad and deepish furrow, which was much darker in its complexion than other parts of the head, and of which some points along the tract of the parietal bone had suffered a slight abrasion of cuticle. The mother's family now consists of four children; of whom all the three younger were born at the eighth month of gestation inclusively, in consequence of her being made the subject, in her subse-

quent pregnancies, of the operation for the induction of premature labour. All her labours have nevertheless been exceedingly slow, and the two last especially rather alarmingly severe. A case, bearing something of analogy to the one just narrated, may be found recorded in the first volume, p. 461, of the London Medical Repository. But as the practice which was described by its contributor as having been resorted to for its relief, has always appeared to the author much too hasty, as well as prematurely vigorous, he cannot give it a place in the present work without introducing it to his reader by an expression of regret, that a case so peculiarly important on many accounts, so supremely easy apparently as to its management, and so strikingly felicitous in its results, should have been given to the public, without the benefit of the most ample authentication. "A woman fell into labour of her second child. The vagina seemed to be imperforate. But on more attentive examination, an opening was found very near the perineum, which appeared not to lead directly to the vagina, but to pass at first sideways downwards towards the rectum. It would not admit the point of the little finger. On dilating this with the first finger, the child's head was felt, high up, pressing against the obstruction, which extended a considerable distance along the vagina in the form of general contraction of the canal, rather than obliteration from adhesions. It became necessary to DIVIDE MUCH OF THE SKIN LINING OF THE VAGINA, and AT LAST TO DELIVER with the forceps. After delivery, a mould of wax, in the shape of a long pear, was worn, and has prevented the accident from occurring again. In her labour preceding this, she had been delivered with the forceps, after three days pain, of a dead swollen child, and for a fortnight afterwards the catheter was used for retention of urine. The contraction was discovered within five weeks after delivery."

One of the most remarkable examples of contraction of the vagina in consequence of an injury received during labour, which has come within the knowledge of the author, occurred to him about twelve years ago in a case for which he was consulted by his friend, Mr. Ireland, of Hart-street, Bloomsbury. The subject of the case, a very interesting young woman, became pregnant soon after her marriage. But whilst on a visit to her friends in the country, she suffered a premature labour at a period of gestation short by several weeks of its ordinarily full period. She, however, represented her medical attendant as having used instruments, and having encountered great difficulty in effecting her delivery. Her recovery had moreover been distressingly painful and tedious to her. On her return to her husband, it was discovered that the sexual congress had become impracticable. The vagina was plugged up; and at the distance of about an inch and a quarter from its orifice, it presented the feel of a perfect cul de sac. The patient had not menstruated, nor had she suffered any of the symptoms incident to the nisus of the catamenial function since her unfortunate confinement. But it did not appear that she had sustained any inconvenience from its suppression. The abrupt termination of her remaining brief portion of vagina at the cul de sac, was as smooth as any inferior portion of its parietes; whilst the whole of its

mucous lining was as smooth as it could possibly be, and totally devoid of rugæ. She had already taken several professional opinions on her case; and amongst others, that of Sir Astley Cooper. To a person so young and interesting as the patient really was; and married, and excessively attached as she also was to a husband of about the same age with herself, it appeared a great object, if practicable, to restore communication between the yet remaining inferior portion of the vagina and the orifice of the uterus. The author thinks that he rather more than fancied he could feel the projecting orifice of that organ, intermediately through, and by pressing against the superior and anterior portion of the cul de sac. But ignorant of the extent of mischief which the patient had sustained whilst she was in the country, and aware that Sir Astley Cooper, with every possible wish to benefit the case, had formally declined an operation, he naturally shrank from the responsibility of recommending a measure which might not only fail to attain the object more immediately sought to be gained by it; but which, if not successful, might become the means of adding to the already existing inconveniences and privations of the case, some of the most loathsome physical infirmities. Judging from the facts which his professional visit furnished him with an opportunity of deciding upon, the author was of opinion that the patient's pelvis had probably been originally sufficiently capacious to admit of the birth of a living child even at the full period of gestation. What operation, therefore, could have been performed, and by what instrument or instruments so serious an injury could have been inflicted upon her at the actual date of her premature labour, the author found it impossible to conjecture; nor has he been able since to obtain any satisfactory information upon the subject. On the whole, it seems most probable, in the peculiar circumstances of the case, that the use of no instruments could have been really indicated. At all events, the deplorable and incurable injury inflicted upon the patient by their employment, is itself an evidence of their having been used most unskilfully.

OF FISTULOUS AND OTHER INTERCOMMUNICATIONS BETWEEN THE VAGINA AND ITS IMMEDIATELY ADJOINING ORGANS.—Under this head may be noticed two principal varieties of communications between the vagina and its adjoining passages; viz. congenital imperfections of the structures constituting their common parietes; and, 2dly, such as result from the effects of injuries and diseases.

Congenital intercommunications between the vagina and the bladder are rare occurrences; as are also those more directly situated between the ureters and the vagina. Of each of these forms of malformation, there are however some remarkable examples recorded.

When there has existed only an inferior portion of the vagina, the remainder has opened into the rectum, maintaining at the same time its natural connexion with the uterus, and as far as it has existed with the urethra. “The annals of medicine,” observes Murat, *Dictionnaire des Sciences Médicales*, vol. lvi. p. 459,

“makes mention of many women naturally without a vulva, in whom therefore, as in the common poultry, the vagina has been known to open into the rectum.” Louis reports a case of this description in a thesis which was afterwards prosecuted by the authorities of the Sorbonne, as contrary to good manners. *De partium externarum generationi inservientium in mulieribus naturali, vitiosa et morbosa generatione, theses anatomico-chirurgicæ*, Paris, 1735. We also meet with examples of this communication of the vagina with the rectum in the *Memoirs of the Royal Academy of Prussia for 1774*, in the *Journal de Sçavans for 1777*, in the first volume of Barbaut’s *Cours d’Accouchemens*, in Richter’s *Bibliothèque Chirurgicale*, and in the *Annals of Medicine of Montpellier for 1804*. Many facts are in proof that this extraordinary conformation has not always operated as an impediment to conception. *Deficiente vagina an possunt per rectum concipere mulieres?* Two examples of this kind have occurred at Paris between the years 1739 and 1775. The first was that of a young woman who had not the vestige of an aperture intermediately between the orifice of the urethra and the anus. Having permitted herself to be seduced by her lover, she became pregnant, and arrived at her full period of gestation. Her mother, who knew that she had always menstruated by the anus, maintained that she was not pregnant; but of course could no longer doubt when the time of her delivery arrived; and which took place in the presence of Puzos and Gregoire. It was effected by a rupture which reached as far as the orifice of the urethra. The second case occurred in a similar way with the preceding; and that pregnancy also arrived at its full period. Devign and Vermont were engaged to attend the patient in her confinement. The delivery took place by the anus; an incision having previously been made at its anterior part in order to facilitate the process. Barbaut *Cours d’Accouchemens*, tom. ii. p. 59. Portal in his *Précis de Chirurgie*, tom. ii. p. 745, states that he knew a young woman who enjoyed the best health whose vulva was perforated by only one small aperture for the discharge of the contents of the bladder. She menstruated by the anus. She became pregnant, and was naturally much disturbed at the prospect of what she had to encounter during her delivery. But an actually existing aperture into the vulva declared itself before the full period of gestation, became gradually more and more developed during her labour, and finally admitted of her being happily delivered. She was attended by M. Péan.”

The anus is sometimes imperforate. In a small proportion of such cases the rectum has opened into the vagina. A case of that description is recorded by Degussieu in *l’Histoire de l’Académie des Sciences for 1719*. Its subject, a child of between seven and eight years of age, voided her fæces by the vulva. Several cases of the same kind are referred to by the older writers.

Nature, it would seem, in some of these examples of departure from her ordinary laws of formation, has shown something of disposition to render the inflicted evil as light and tolerable to the sufferer as possible. In a case of

congenital communication between the rectum and the vagina of a female calf, published in the *Ephemerides Germanicarum*, dec. iii. an. 1699, 1700, p. 360, it is stated by Dr. Hartmann, that the aperture between the rectum and the vagina was bounded by a structure similar in appearance and office to the ordinary sphincter of the anus. The author is in possession of the notes of a case, which however in consequence of being mislaid he cannot immediately refer to, of an old lady, for whom it is probable a similar provision had been made. She had been the subject of this malformation all her life; but by the constant habit of using an aqueous detergent injection after every occasion of obedience to her natural calls, she found herself competent to keep her person in a state of considerable cleanliness and comfort. After making allusion to a case of a redundant aperture communicating between the perineum and the uterus, published in vol. vii. p. 510 of the *Collect. Academique*, M. Murat, in the article already quoted, expresses his obligations to his "EXCELLENT FRIEND, M. CHAMPION," for the particulars of a case of sexual malformation, which may probably be a solitary one of its kind amidst all the records of pathology. Its subject was a woman of Bar le Duc; the mother of three children, whose births had been attended by no serious accidents. The opening into the vagina presented itself anteriorly to but immediately on the verge of the anus. The aperture was in a transverse direction. The space usually occupied by the great sulcus of the vulva, was entirely made up by an unfissured prolongation of the cellulo-integumental structure which ordinarily cushions the pubes. Considerable apprehensions were entertained lest during the first labour the perineum might suffer laceration. The anticipations in question were, however, happily not confirmed by the event. The birth was actually an easy one.

Of intercommunications between the several pelvic passages consequent upon INJURIES AND DISEASES, the recorded examples are almost innumerable. Those from mechanical injuries, incomparably the most frequent, and for the most part the results of contusion from severe and instrumental labours, have been such as have usually implicated the urethra and the neck of the bladder. In the absence of the most suitable and best proportioned relations between the bulk of the fœtal head and the capacity of the mother's pelvis, such contusions of the important tissues of the parts implicated are sometimes unavoidable. It is however to be feared that the interferences of art are very frequently chargeable with these formidable results. The neck of the bladder and the urethra are especially exposed to pressure during impaction, or even long-continued arrest of the child's head in a confined pelvis. Such pressure has the effect of suspending the circulation, and ultimately of devitalizing the tissue of the part more immediately affected by it. A fatal inflammation supervenes, which terminates in solution of continuity; and thus are eventually established the intercommunications to which our present remarks apply, and which with very rare exceptions prove distressingly loathsome and incurable.

Attempts have been sometimes instituted by ingenious men to repair these injuries by ligatures and other contrivances. From the constant exposure of the injured surfaces to the irritating action of the urine upon them, their subsequent cohesion is rendered next to impossible : and hence the almost universal fact, that they never heal, and that the bladder never recovers its perfect continency.

Breaches of the same kind through the recto-vaginal septum, which indeed are of much less frequent occurrence than those of the neck of the bladder and the urethra, are also happily in many cases less miserably constant and durable in their results. The author has known several breaches of continuity of the recto-vaginal septum consequent upon severe or mismanaged labours, which have subsequently been perfectly made up by contractions and cicatrizations. In one case, a pretty extensive laceration of the vaginal part of the septum was inflicted by a very undexterous use of the forceps. A purulent discharge of moderate amount, accompanied by little or no sympathetic fever, was the only consequence. In another case, the obstetric scissors, employed WITHOUT NECESSITY, to open a child's head, slipped slantingly along the foetal skull, and found its way through the recto-vaginal septum into the rectum. The consequence was the discharge of small quantities of fæces by the vulva for three or four days. The secret was never known, excepting to the operator and the party whom in his first alarm he had consulted in the case. Another gentleman not much accustomed to perform obstetric operations, had the misfortune of determining the propellent force which he applied to his perforator in the opposite direction ; and the point of it was driven with no faint movement into the bladder. That wound never healed. The unfortunate patient however survived, and is alive to this day to rue herself the victim of a presumptuous and untaught pretender to a knowledge of the art of midwifery. Her medical attendant had never received instructions in any obstetric school. A case of singular interest on this subject presents itself to the recollection of the author, which, inasmuch as it will tend very pointedly to illustrate the different results of injuries sustained by the anterior and posterior pelvic structures from the accidents of severe labours, he will avail himself of the present opportunity of submitting to the perusal of his readers. A very young woman, a patient of the Royal Maternity Charity, became the subject of a labour of extreme severity, and of about fifty hours' duration. It is a standing rule of that Excellent Institution, that after a midwife shall have remained with any of its patients during four-and-twenty hours after the actual accession of labour, she shall send to the physician of her district a written intimation of the fact of her attendance, together with any account of symptoms which it may appear to her useful or necessary for her superior to be made acquainted with. It may be well supposed that the rule alluded to is not always observed with sufficient punctuality. It was unfortunately most grievously neglected in the treatment of the case which the author is now about to report. On entering into the parturient chamber fifty hours after the accession of the labour, the physician had occasion to observe, that the patient was at that moment making consider-

able and apparently even powerful bearing down exertions; and that the child was actually being born: but that the exertions in question were not accompanied by any of the more vehement expressions of severe pain usually exhibited during the last extremity of intensely laborious births. The patient was asked if the last act of the birth, including especially the transit of the child's head through the external orifice, had not been very painful to her. She distinctly answered in the negative; and added, that she scarcely felt it at all. Such information was not a little calculated to excite the alarm of any person competent to comprehend the essential elements of a proper and judicious prognosis in such a case. The parts so long exposed to the tremendous pressure which they were represented to have sustained, were already in a great measure dead to the impressions incident to their natural sensibility. The author, however, was determined not to content himself with any merely theoretical views. He felt it his duty to ascertain the actual condition of the parts which had principally suffered during the latter hours of the labour. They were greatly swollen in bulk, but incipiently flaccid and wrinkled as to the condition of their surfaces. Their colour was that of half-worn mahogany; and the fœtor from the vulva was exceedingly offensive. The patient, not a little exhilarated by the long-wished-for change which had taken place in her circumstances, presented, nevertheless, a countenance full of melancholy interest. It was at once ghastly and placid. The pulse was small, gurgling, and difficult to be counted. It scarcely need be added, that the child was still-born. After prescribing an opiate, with fomentations to the parts, the case was left for about eight hours. During the subsequent visit, appearances had considerably changed. The pulse was hard, velocious, and beating at the rate of 140 strokes in the minute. The skin was dry and hot. The hypogastrium was full and incipiently tense. The countenance, which was indebted to nature for great loveliness, both for its complexion and proportions, was in a great measure devoid of animation. The discharge from the vagina was very scanty, of a dark brownish colour, and abominably fœtid. The nymphæ, together with the other constituent structures of the vulva, were now become exceedingly swelled, and presented to the feel an almost tuberculated degree of induration; but still they were almost entirely devoid of sensation. The tenderness of the abdomen and of the loins totally disabled the patient from changing her position. The bowels had not been relieved since the commencement of the labour, and the bladder felt as if moderately distended. This visit was paid at about half-past ten o'clock in the evening. A full dose of calomel with opium was prescribed to be taken that evening. Twenty leeches were ordered to be applied to the pudendum, and the fomentations to be continued. A draught with infusion of senna and sulphat of magnesia was directed to be given early the next morning. On the following day, when there were presented indications of considerable re-action, free general bleeding was had recourse to, and leeches were again applied to the pudendum. The prognosis remained for several days exceedingly doubtful.

The contents of the bladder required to be daily withdrawn by the catheter. For about eight days after the delivery, the condition of the patient was most anxiously precarious. On the tenth day, when attempting to respond to one of the calls of nature, she felt as if something of substance had fallen from her vagina. On examination, first by the attendants, and afterwards by a professional friend of the author's, it was discovered to be a mass of putrid flesh. Immediately after this occurrence, the contents of the bladder, instead of being obstinately retained as had been the case before, came away involuntarily; and early on the subsequent morning, it was observed that the intestinal fæces were also voided through the pudendal orifice. Escaping with her life, the measure of the poor creature's misery appeared now full, and there seemed little left for art to do, but to look on in helpless mortification and despair, and at all events to abstain from all mischievous interference with the operations of any healing process which nature might be pleased to institute. The injuries incurred were thus proved to be twofold. On passing a catheter into the bladder, and introducing a finger into the vagina, it was discovered that a considerable portion of the parietes of the urethra and neck of the bladder had sloughed off. In short, a very extensive loss of substance was found to have been sustained. The bare catheter could be felt for an extent at least of an entire inch. In order to be enabled to form a correct opinion of the nature and probable magnitude of the injury inflicted on the recto-vaginal septum, the index finger of one hand was insinuated into the rectum, whilst that of the other was introduced into the vagina; the patient in the mean time lying on her left side obliquely across the bed. The points of the two fingers thus carried up about two inches along their respective passages were easily made to meet. They gave the impression of an extent of breach, together with a co-extensive loss of substance of the part, of at least AN INCH AND A HALF IN DIAMETER. From this date the general health of the patient improved. Every possible attention was given to her case. All attainable comforts were provided for, and all her symptoms were assiduously watched and administered to. During his professional visit on the tenth day after the first appearance of fæces at the vulva, the patient, in a tone and manner expressive of great delight, informed him that she had been able to respond to a call of nature to evacuate the contents of her rectum BY ITS NATURAL OUTLET. She made her statement with a confidence which left no doubt of the correctness of the fact represented. From this time forward no fæcal matter was voided by the vulva. It seemed a matter of some curiosity to ascertain the method which nature had adopted to heal up so extensive a breach in the recto-vaginal septum; but in order not to disturb her proceedings prematurely, this curiosity was repressed for nearly a fortnight. The reader will scarcely anticipate what the author has to report of what he then detected. The boundary edges of the aperture had suffered no perceptible contraction. The opposite points of the circle, for such was the figure of the original aperture, were found to be as remote from

each other as during the first examination. But, nevertheless, the naked points of the fingers could not be made to meet. A thin delicate tissue of a membranous nature was felt to interpose, and by a little further examination with the point of the right-hand index, the author had the satisfaction of assuring himself that nature, by a most unusual effort of her justly-celebrated *VIX MEDICATRIX*, and by a variety of it of which he had never before witnessed the exertion, had completely made up the breach which the violence of the late protracted labour had made in the recto-vaginal septum; she herself both finding the materials and executing the work. The inflamed edges of the aperture probably furnished the materials in the form of lymph, and an accidental bed of fæces the soft cushion on which the tender and plastic web was first extended and eventually completed into sufficient strength to effect the restoration of two of the pelvic passages to their original integrity. The author much regrets that he has to add, that the damage sustained by the urethra and the neck of the bladder was never repaired. For examples of injuries inflicted on the pelvic viscera and external genitals by severe labours, the reader may consult the following references. *Journal de Médecine*, &c. tom. iii. p. 551. *London Medical Journal*, by Simmons, vol. i. p. 335. *Lowthorp's Abridgment of the Transact. of the Roy. Soc.* vol. iii. p. 321. *Supplement to Read and Grange's Abridgment*, vol. vi. p. 62. *Saviard's Surgery*, two cases, pp. 7 and 72.

The successful practice adopted in the following case, seems to entitle it to the distinction of being recorded in the present work. A woman of about forty years of age was attended in her last confinement by an ignorant midwife. After enduring very violent pains, she was at length delivered. But when the secundines were withdrawn, a profuse hæmorrhage came on, and prolapsus of the vagina followed. In order to remedy this latter evil, the midwife made and applied a pessary, which in the course of some time subsequently she substituted for another, made of wood and covered with wax. In the construction of the second, she neglected to remove a splinter which projected from it, and which she left protected only by a coating of wax. This the woman wore for ten years; but not without sustaining the greatest inconvenience from its use. Such was the irritation which it produced, that she was sometimes obliged to keep her bed on account of it for twelve or fourteen days together. On one of those occasions, the celebrated Schultzer was consulted in her case, and his attention having been determined to the locality of her principal ailments, he discovered that a tumour occupied the perineum and extended to the vagina, the rectum, and the neighbouring parts. Suspecting the pessary to be the cause of these evils, he endeavoured to remove it; but by reason of the confinement and intumescence of the parts, his attempt was not successful. With a similar result he also attempted to reduce the tumour. After the lapse however of about eight days the tumour suppurated, and an immense quantity of purulent matter and other sordes escaped from the vagina. The tumour quickly subsided and afterwards totally disappeared. On the removal of the

pessary, which was then with some difficulty effected, Schultzer found that a part of it had actually become separated, and that either that or the rough portion which yet remained, had caused, in addition to a great irritation of the parts for so many years, the violent inflammatory process which had terminated in the late extensive suppuration. He moreover detected that by the extensive mischief so occasioned, a communication was opened of about four fingers' breadth between the vagina and the rectum. That eminent practitioner moreover discovered, that for the evil with which he had to contend, no remedy could be obtained without an operation. He therefore resolved to cut off the edges of the aperture of communication, on the principle of the operation for the cure of fistula in ano. The wound was treated accordingly in the same manner as is usual in the treatment of such fistulæ. In six weeks the cure was completed, and the excrements were again discharged by their accustomed passage. By the use of lint soaked in astringent solutions, and introduced as far as the orifice of the uterus, the vagina was completely reduced. *Comment. de rebus in Scient. Nat. et Medicina gestis. Lips. 1755, tom. iv. p. 664. Lond. Medic. and Physical Journal, vol. xxiv. p. 360. Journal de Médecine, tom. xv. p. 145, tom. lxxix. p. 397.* A case of sloughing of the vagina and neck of the bladder in consequence of difficult labour CURED, may be found recorded in *le Recueil Periodique de la Société de Santé de Paris, tom. i. p. 187.* The mode of treatment adopted in this case, was that of imposing upon the patient the obligation of constantly wearing a catheter, with a view of preventing as much as possible the escape of urine by the aperture between the bladder and the vagina. For several weeks no urine passed by the CATHETER. Soon afterwards it partly passed by the catheter and partly by the wound. In about two months subsequently it began to pass by the catheter exclusively, and by this procedure a cure was finally effected. At the expiration of a year the catamenial function, which had been for some time suspended, was again re-established. In about two years afterwards the woman became pregnant again. The medical attendant on this case was frequently obliged to withdraw the catheter, to prevent the accretion of sabulous matter to its surface.

The goodness of the principle of keeping a catheter constantly in the bladder has been long acknowledged, and in some few cases its application has been attended with a successful result. The only objection to it in practice is the extreme irritability of the bladder; by reason of which few patients have been able to tolerate the retention of a catheter within its cavity for a sufficient length of time, to comply effectually with the principle of the indication.

Various contrivances have been suggested to plug up the artificial passage between the bladder and vagina; such as globular bodies and pessaries of various forms and materials, sometimes hollowed out, and at other times solid: some smooth, others resisting, or elastic, yielding, mouldable, absorbent, &c.: but the author does not recollect a single example of the means in

question having effected a permanent cure, WHERE THE INTERMEDIATE APERTURE HAD BEEN THE RESULT OF SLOUGHING.

The practice of bringing the edges of such breaches of continuity together, and connecting them by means of ligatures, has in like manner very seldom been attended with success. The author does not wish to attach to either of these modes the discredit of having universally failed. But he is very much disposed to believe that in by far the greater number of cases in which they are represented to have been successfully employed, either the injuries for which they were used were trifling as to the magnitude of the original wound, or else the wound had been the effect of penetration by an edged or angular portion of fœtal bone, rather than of long-continued pressure and contusion; or, finally, the incontinence might be the result simply of reduced power, or possibly of reduced substance of the sphincter of the bladder, rather than that of a communication between the bladder and the vagina in consequence of any variety of solution of continuity. A well-adapted globular body of proper size to admit a suitable part of its convex surface to be accurately adjusted to the boundaries of the aperture; capable also of some modification of its figure for the greater convenience of introduction and adjustment; readily chargeable with air for the purpose of distension, but nevertheless admitting of being made perfectly air-tight; so smooth on every part of its surface as to be easily tolerated when applied to the parts intended even in their most tender state: such an instrument might in many, perhaps in the majority of cases of intercommunications between the bladder and the vagina, be safely recommended, as a means of relief or mitigation of the distressing evils consequent upon the accession of so grievous a calamity. But no mechanical contrivance, nor any mode of management that has hitherto been proposed or adopted, can be relied upon as AN ABSOLUTE REMEDY.

OF LACERATIONS OF THE VAGINA.—Lacerations of the vagina form a part of the general subject of laceration of the uterus during parturition; inasmuch as lacerations of the uterus are in many such cases continuous into the parietes of the vagina. It has been indeed supposed that cases of rupture of the vagina have often been mistaken for lacerations of the uterus. See an extraordinary case of lacerated vagina at the full period of gestation, by William Goldson, 1787; whilst, perhaps with equal neglect of proper evidence, it has been too inconsiderately maintained that ruptures of the vagina are incomparably less dangerous than those of the uterus. Ruptures of both these organs will necessarily occupy our attention hereafter, when we shall have to treat of the several varieties of complicated labour.

Certain lesions of the vaginal parietes, entitled to the designation of ruptures, have taken place under other and very different circumstances from those of parturition. A case has been reported by Diemerbroeck, of a rupture of the

vagina, which was sustained during sexual intercourse, and which terminated in a fatal hæmorrhage. The reader who has properly attended to some of the cases of extreme want of capacity complicated with more than ordinary rigidity of the parietes of the vagina, which have been recorded in the foregoing pages, will find no great difficulty in comprehending the possibility of such an accident. A beautiful mare, the property of a professional friend of the author, was taken from her stall by some atrociously brutal grooms, and placed in a situation to be forcibly covered by a stallion, at a time when she was not the subject of the œstrum. The consequence was the death of the animal from intense inflammation of the vagina. The situation of the vagina is such as not often to expose it to wounds and lacerations from without. M. Murat, in the article already quoted, cites an example of that kind. "A woman of the parish of St. Merville in going to milk her cows, wishing to avoid the trouble of opening and shutting a little gate which was in her road, was in the habit of going over it. But the top of it was finished off with pointed ribs of paling. Her foot one day slipping, she came down in such a manner as to be received by one of these vertical ribs of paling, and it penetrated into the vagina to the depth of two or three inches, pushing at the same time before it the woman's chemise and petticoat. A slight hæmorrhage occurred at the time of the accident. The vagina was however only excoriated. The labia majora were no more than contused. The woman speedily recovered." De la Motte, *Traité Complet de Chirurgie*, tom. ii. p. 136.

The vagina is liable to diverse varieties of inflammation. We have already had occasion to speak of some of its inflammations in connexion with certain diseased states of the external genitals. There will still remain to be treated of, some other inflammatory conditions of it, in connexion with and essentially as parts of diseases common to it with the uterus. The phlegmasiæ of the vagina are sometimes acute and sometimes chronic, according to the character and specific influences of their several causes. In many of the more characteristic varieties of inflammation of the vagina, the muciparous glands, which are interspersed throughout its substance and immediately beneath its mucous lining, appear to be the proximate seat of the diseased action. A part of the structure however, not less implicated than its glandular apparatus in the more acute forms of inflammation of the vagina, is its vascular tissue; which, by reason of the exquisite delicacy of its epithelium, is obviously much exposed to the influence of whatever causes of irritation are accessible to it. Inflammation of the vagina usually commences with a slight rigor, accompanied by a sense of coldness of the loins and thighs, and especially of the pudendal surfaces. This is followed by an indistinct perception of heat, as well as of some pain of the parts about to become the seat of the phlogosis. In the progressive development of the disease, the parietes both of the vulva and of the vagina become intensely painful and swollen, and the mucous membrane, lining or rather constituting their internal surfaces, acquires a bright-red colour. The

patient then begins to experience a difficulty in voiding the contents of her bladder, and in some cases becomes the subject of constipation. The action of walking is attended with so much pain and inconvenience as frequently to become impracticable. There is generally a sero-sanguinolent discharge from the vaginal passage, which is exceedingly offensive in its odour, and very irritating to the surfaces with which it comes in contact. The parts themselves become eventually the seat of intense pain. The accompanying fever is usually of a character more insidious than that which accompanies inflammation of the uterus. The rigor introductive of the disease is of a feebler character; rather presenting a succession of chilly sensations of apparently inconsiderable importance, and too apt to be neglected or underrated, than a strong shivering of great severity and lengthened duration, the old and well-known and universally recognised harbinger of a dangerous malady. The pulse rarely acquires an elevated tone, either as to its strength or frequency; the latter scarcely ever exceeding the number of a hundred and twenty strokes in the minute. The temperature of the body seldom rises to the degree of heat usually encountered in cases of ardent fever. The prognosis in this disease will be found essentially to depend upon the greater or less tendency of its cause to injure the texture of the parts affected. Hence severe contusions sustained during violent and long-continued labours are followed by inflammations of the very worst character. Inflammation of the vagina is indeed subject to all the terminations of inflammatory action common to the greater number of other tissues of the living body, viz. resolution, suppuration, and mortification. The object of our first practical indication should of course be that of resolution; and no assiduity of attention nor vigorousness of treatment should be wanting to ensure its attainment. The termination exclusively by suppuration occurs less frequently perhaps, in cases of inflammation of the vagina, than in that of most other structures: or it might probably be more correctly stated, that vaginal inflammation is less laudably purulent and sanatory than that of the uterus and many other structures of the body. But even when this more decided process is instituted, the subject tissue of its occupancy is of so slender a fabric as easily to admit of extensively dangerous ulcerations and destructive solutions of continuity. It seems doubtful, however, whether the most frequent termination of acute inflammation of the vagina, is not also the most malignant; or at least a mixture of its most malignant variety, viz. that by mortification, with the results of feeble and imperfect efforts of the suppurative process; their combined action becoming eventually productive of that deplorable destruction and death of parts which is usually called sloughing. Such unhappily, in too many cases, is the result of the inflammations consequent upon severe labours, and upon the use of instruments prematurely, too tardily, or unskillfully employed, to assist the function of parturition. The treatment of inflammation of the vagina is to be conducted on the same principles with that of the uterus. Less prominently decided in its character, more insidious in its approach, and apparently requiring more time to

accumulate its means of mischievous activity in the sequel, the inflammation of the vagina requires on the part of the practitioner, more closeness of observation, a greater constancy of vigilance, a more deliberate comparison and appreciation of symptoms, and if possible, more soundness of judgment for its skilful treatment, than even that of the uterus. The most important practical point in its management, consists in the early detection of the symptoms which are usually premonitory of its approach and which in fact never fail to precede its actual invasion. The knowledge of its exposure to long-continued pressure, and especially of contusion having been sustained by it, should never be neglected in the calculation of the possible and even probable accession of its subsequent inflammation. The extreme tenderness of the parts themselves, and the creeping chills already adverted to, not unfrequently accompanied by a degree of numbness of the hips and loins, and also of the upper part of the thighs and the surfaces about the pudendum, should be considered as circumstances full of import, and deserving the medical attendant's earliest and most anxious consideration. A pulse of ninety or upwards on the day subsequently to a severe labour, should be estimated as an element of no little consequence in the formation of a competent diagnosis. There is always an irrepressible activity in the state of the pulse in such cases, without at the same time being accompanied by any extraordinary development either of strength or of frequency. It is indeed for the most part, a pulse which by many people might be deemed rather a languid one, and such at all events as might be considered not to require nor even to admit of venesection. In the circumstances stated, however, the practitioner should be on his guard when he encounters a pulse of ninety or upwards, and in an immense majority of such cases, he will consult the best interest of his patient, by abstracting from her, even prospectively, and without waiting for the onset of the threatened attack, between twenty and five-and-twenty ounces of blood. In the management of inflammation of the vagina and its adjoining genital surfaces, there is one practical advantage which cannot so conveniently be made available for the subduction of inflammation of the uterus: viz. the perfect accessibleness of the surfaces in question to the operation of leeches. The utility both of general and local bleeding in cases of wounds and bruises of limbs, and of all other external parts of the body, is universally known and acknowledged; and the propriety of such practice, even as a means of prevention, and not unfrequently indeed as a measure simply of precaution, is equally acknowledged and notorious. But unhappily some of the most mischievous doctrines of the schools are observed, even now, to hold sway in the usages and decisions of the parturient chamber. It is a vulgar prejudice, and an error often full of danger, that a puerperal woman must necessarily be the subject of extraordinary delicacy and debility; and that the bruising and abraded surfaces consequent on the severities of laborious or instrumental parturition, are not to be treated on the same principles and with the same vigour as similar injuries of other parts of the body. The application of

twenty or thirty leeches to the genital surfaces, in cases of even apprehended danger from acute inflammation in the circumstances here referred to, should never be liable to the reproach of unnecessary interference. No female of adult age, and not previously the subject of extraordinary marasmus, nor of any dangerous malady, can be seriously and permanently injured by the loss of any quantity of blood which the above number of leeches could derive from the vaginal and uterine circulations, during the presence or during an immediately anticipated development of active inflammation of those structures. The next item of treatment most necessary to attend to, and most assiduously to be put in practice for the subduction of inflammation of the vagina, is the employment of fomentations to the vulva. Fomentations will be attended by two importantly good effects: they will first promote a free discharge of blood from the leech bites, an evacuation which should indeed be promoted and kept up for many hours; and subsequently they will greatly soothe the morbid sensibility of the phlogosed and tender surfaces implicated in the diseased action. There is one other local application which might most essentially serve the interests of a case of actual or strongly apprehended inflammation of the vagina which yet remains to be noticed; and which will scarcely ever fail to verify the expectation of good which even the most sanguine practitioner may be disposed to make in its favour. It consists in charging the entire vagina, or as much of it as may be practicable, with a poultice made of the finest bread-crumbs and a doubly-diluted solution of acetate of lead. The consistence of this pultaceous charge should be that of sufficient softness to admit of its being injected into the passage by a large and powerful syringe. Its retention should be ensured by means of napkins dexterously applied to the vulva; and it should be removed and renewed every five or six hours. It will be considered unnecessary in this place to detail the more ordinary indications of treatment in cases of acute inflammation.

Inflammations of the vagina from without, and derived from the operation of accidental causes, will present themselves to practitioners of competent skill and professional acquirement, accompanied by their severally appropriate indications. The causes of inflammation of this structure, derived from chemical sources, are fortunately few and comparatively unknown in their application. There are, however, recorded, some one or two cases of fatal inflammation and destruction of the tissues of the vagina by felonious exposure of it to the action of poisonous chemicals. A very interesting case of a murderous act of this description is recorded in the third volume, p. 178, of the Transactions of the Royal Society of Copenhagen, communicated by one of its members, C. M. Mangor, Doctor of Philosophy and Medicine, entitled "THE HISTORY OF A WOMAN POISONED BY A SINGULAR METHOD." This method consisted in mixing the powder of white arsenic with the farina of ground corn, the meal probably ordinarily used in the country for making household bread, and throwing it up into the vagina of the victim intended to be murdered by it. The unfor-

fortunate subject of the foul deed was the third wife of a barbarous villain who had previously immolated to his worst passions HIS TWO FORMER WIVES. The poison, mixed with [the farinaceous matter, was thrown up into the fated passage with the murderer's fingers and thumb. It does not appear that any means were adopted to guard against the fatal effects, beyond injecting into the passage repeated quantities of milk, some six or eight hours subsequently to the application of the poison to it. The poison was introduced between seven and eight o'clock in the morning. At three o'clock in the afternoon the patient was seized with shiverings, an intense sense of cold, and then with burning heat of the vagina. Her sufferings for some time afterwards were intense. For several hours she lay in a moribund state. At eleven o'clock of the same night she became delirious, and at midnight she died. The general appearance of the body was that of a healthy and stout subject. The countenance was even then comely. The abdomen was not swollen. There were no spots to be observed on the abdominal surface. The labia majora were large, a little tumid and red. The orifice of the part was open, flaccid, and sufficiently capacious to admit three fingers, and even if wished the entire hand to be introduced into it with facility. A few granules of arsenic which were irregularly crystallized were found in the vagina. These, upon being thrown into water, sunk into the bottom of the vessel; and when put upon burning coals, gave out a blueish smoke and a strong alliaceous odour. The orifice of the uterus was sphacelated and open. Its body presented a healthy appearance. The stomach was scarcely in a state to be considered unusual. It contained no poison. The duodenum was inflamed and affused with much bile. The lungs were unusually livid, but without being knotted or indurated. In each ventricle of the heart there were polypöid coagula. In all the other viscera nothing was found altered. All the blood in the vessels was fluid and uncoagulated. Notwithstanding that this enormous crime was duly confessed before the authorities, and that no rational doubt existed of the criminality of the perpetrator it was considered, by reason of the novelty of the method which was adopted to accomplish it, an act of public duty, worthy of an intelligent government, and due to the claims both of humanity and of criminal justice, to establish beyond the reach of possible doubt or cavil, the competency of the means which were used to accomplish the horrible end attained by their atrocious employment. The matter was accordingly referred for investigation to the celebrated Abildgaard, the professor of veterinary medicine, who was instructed to try the effects of the same poison, which was to be applied in the same manner, upon TWO MARES, of which one was given up to the full action of the poison, and the other made the subject of the earliest possible curative treatment. It need scarcely be added, that the first animal died, and presented appearances of the poisoned structures exceedingly similar to those which had been observed on the corresponding structures of the unfortunate human subject. The other was treated by frequent and copious injections into the vagina of tepid water,

linseed oil, and solutions of white soap in water, together with a vegeto-mineral fluid, of which the composition is not stated. In about two days, the latter animal perfectly recovered.

Another extraordinary case of poisoning by the same clandestine and cruel method is recorded in a work entitled *Clinique Chirurgicale*, by N. Ansiaux. *Journal Complementary du Dict. de Science Médic.* tom. i. p. 158. The evidence in this case consisted in a declaration of the poisoned woman during the intensity of her sufferings, that her husband, who had on a former occasion attempted to poison her with arsenic thrown into a cup of coffee, had on the then occasion succeeded in effecting his object, by throwing into her person, at the moment of enjoying his conjugal rites, a preparation of the same substance in the form of powder. No evidence from chemical analysis was attempted to be supplied in this case. The murder was however duly avenged by the laws.

Chronic inflammation of the vagina may be the effect of several varieties of causes, of which some may be deemed constitutional, and others local and accidental. The virulent inflammation consequent upon the application of gonorrhœal and other sexual poisons, is an effect, for example, of the latter class of causes. Although the inflammation from the application of the gonorrhœal poison is generally in the first instance attended by severe and acute symptoms, it nevertheless rarely produces a disease of a peculiarly dangerous or fatal character. Its ordinary history is that of a gradual change of character from that of a very painful and acute form, which is often attended by no inconsiderable constitutional symptoms, to that of chronic gleet; a variety essentially of the same disease which is often annoying enough on account of its tediousness and length of duration, but which is scarcely ever known to involve either life or structures in any serious jeopardy.

Inflammation of the vaginal surfaces is, on different occasions, both a cause and an effect of morbid excrescent growths from, as well as of ulcerations of, various specific forms and character of its mucous membrane. Constitutional acrimonies incident to the presence of certain diseases, such as those of gout, strumous affections, &c., are productive of subinflammatory conditions, which are only capable of being remedied or even substantially relieved, by a successful treatment of the original and constitutional malady. That form of mild inflammation which usually attends, and is probably in some degree the cause of, the discharge from the vaginal passage called *fluor-albus*, is in most cases the result of a certain delicate state of the constitution, inseparable perhaps from certain conditions of the subjects liable to them, both as to sexual and constitutional health and other circumstances to be more particularly discussed when we come to treat of the functional diseases of the uterus and its appendages.

It would exceed the limits of the present article to enter with any degree of minuteness into an examination of the various forms of ulcerations to which the mucous structure of the vaginal surfaces are liable. In some cases they pre-

sent themselves in the form of simple abrasions of the epithelium of the part affected, without presenting scarcely at all the appearance of ulcerations. In some other cases the ulcers are very minute in extent, and also very superficial as to their encroachment into the substance of the tissue which they invade, exhibiting themselves rather as specimens of inconsiderable cutaneous eruption than true ulceration. This is especially the character of the petty but troublesome and obstinate ulcerations which constitute what is called herpes of the vagina. The more serious inflammation attendant upon and really constituting the essence of one of the most painful diseases incident to the peculiar organs of the female, viz. that of cancer, will be considered at ample length, when that painfully interesting disease shall come under our more general consideration. Some of the most loathsome ulcerations and extensive intercommunications amongst the several pelvic passages, will be found to depend upon the cruel havoc and destruction of texture incident to unremitting and never-ceasing encroachments of that formidable disease.

The vagina is the seat much more frequently than it is itself the subject of polypous tumours. Those parasite growths are indeed seldom productions of the vaginal surfaces themselves. For one example of tumours of this character that might take its origin from any part of the vaginal surface, there are at least ten which are indebted for their source, either to the neck or to the interior of the body of the uterus. Examples, however, are not wanting of very large tumours of a polypöid character, being produced by diseased actions or conditions of the vaginal surfaces themselves. Baudier has favoured the public with a description of a tumour, which weighed ten pounds and a half; and M. Dupuytren presented, at one of its sittings, to the Society of the Faculty of Medicine of Paris, two specimens of enormous growths of this kind, remarkable for the fibrous character of their texture. *Bulletins de la Faculté de Médecine de Paris*, 1820. Polypi of the vagina are attended generally by symptoms similar to those usually present in cases of uterine polypi. The principal difference is, which indeed is one of great practical importance, that they are attended by less frequent and less profuse discharges of blood. In cases of vaginal polypi occurring in virgin subjects, and acquiring a considerable bulk before they begin to cause pressure upon the inferior portion, the parts about the orifice of the vagina, it sometimes happens that they extend principally in their dimensions upwards, so as to displace and disturb the functions of the uterus, and those of the other organs situated within and in the neighbourhood of the superior pelvis. In some of these cases such encroachments have been made even upon the hypogastric region, that the presence of the tumours in question have been distinctly recognised through the abdominal parietes. When a polypöid tumour of this description presents itself during pregnancy, it will become an important duty of the medical attendant engaged to attend the patient in her confinement, to deliberate and perchance to consult one of his most experienced friends on the practical question of the

expediency of an operation, before the accession of the expected confinement. It is considered an essential part of the definition of a polypous tumour, that its principal trunk or body shall greatly exceed in dimensions its peduncle or neck. The author once possessed an interesting specimen of a tumour, which had derived its origin from a portion of the vaginal surface, the breadth or transverse dimensions of which were every-where equal. The extent of connexion with the parent surface measured about three inches; but from the peculiar delicacy of the intermediate vascular connexion between the morbid growth and that surface, the removal of the tumour, which was of the breadth already stated and of the length of between ten and eleven inches, was effected with great facility, and without being accompanied by the loss of more than half an ounce of blood.

The vagina is indeed at different times the seat of great varieties of tumours; a circumstance which must make it the obvious duty of medical men to pay much practical attention to their histories, and the characteristic differences severally presented by them. The different epithets by which tumours have been most commonly distinguished, and which have generally corresponded with their structural characters, are those of fibrous, scirrhus, cartilaginous, sarcomatous, encysted, &c. Tumours have occasionally been encountered in the vagina which have contained serous fluids, gaseous fluids, together with purulent matter, gelatinous semi-fluids, calculous bodies, and such as have arisen from the enlargements and indurations of the structure of the vaginal parietes themselves. Some of the accumulations of imperfectly organised deposits, producing incroachments upon the native structures, and upon the space naturally allotted to them within the cavity of the pelvis, have occasionally been embedded, and formed for themselves cysts within the cellular texture of the parietes of the vagina. Scirrhus tumours very rarely present themselves in the vagina when the uterus is totally free from a taint of the same disease. For that reason, as well as on account of their intimate and inseparable connexion with the original structure from which they are propagated, it will be scarcely ever practicable to effect their removal by an operation. Encysted tumours embedded in the substance of the parietes of the vagina, may on the other hand admit of relief by a skilful surgical operation. The principal difficulty of the subject is to arrive at a perfectly satisfactory diagnosis. A most interesting case of an encysted tumour of the vagina successfully treated is given by M. Pellatan in his *Clinique Chirurgicale*, tom. i. p. 250. "A woman of the age of twenty-four presented herself at the *Hôtel-Dieu*, to be treated for a tumour which greatly incommoded her, and which, by encroaching painfully both upon the rectum and the vagina, obliged her to walk with her thighs separated, and greatly inconvenienced her in her ordinary movements. This tumour occupied the left side of the vagina posteriorly, and was covered by its mucous membrane. It was of a globular form, and of about the size of a pullet's egg. Coughing seemed to increase its volume, and had the effect of pushing it towards the orifice of the vagina; where also it equally presented

itself after the patient had been sitting for a long time. It was however easily reducible to its proper place in the vagina. The tumour itself was not painful; but it impeded the escape both of the urine and the fæces. Several gentlemen of the faculty were disposed to consider it as a case of hernia; led probably to that opinion by the softness of its texture and the facility with which it could be made to change its situation, without however admitting of being pushed beyond the reach of the taxis. But M. Pelletan was of a different opinion. He was able to trace its entire circumference, and by means of two fingers carried up beyond it, and applied to its upper part, to bring it down to the orifice of the vagina. He was thus convinced that it had no intimate connexion by continuity of structure with the adjoining tissues. In its softness he recognised a fluctuation, and by its moveableness he was induced to think that the fluid in it was contained within a cyst covered by vaginal structure, but more immediately invested by loose cellular tissue. An incision of two inches in length made through the parietes of the tumour, gave outlet to half a glassful of puriform matter, which was of a greyish white colour. There was subsequently for several days an abundant discharge from it. The applications which were made use of in the further treatment of the case, consisted merely of some detersive injections which were thrown up into the vagina. The patient was perfectly cured by the operation." M. Murat reports that his friend M. Champion had seen three cases of collections of serous fluids within the proper substance of the parietes of the vagina. The tumours thus formed were in some degree isolated and pendulous in the vagina. Their envelopes were thin and slender, and in size they exceeded that of a goose's egg. The contents of all of them were discharged in consequence of their exposure to the strong pressure incident to the act of childbirth. Their removal, thus incidentally effected, proved in every instance a permanent cure.

ADIPOSE TUMOURS WITHIN THE VAGINAL TISSUE.—The recto-vaginal septum has occasionally given locality to tumours consisting chiefly of adipose deposits. A woman of forty years of age became the subject of a tumour of this description. It grew so rapidly that in two years it presented itself between the labia, and measured eight inches in length. Its inferior part was globular, and it bore closely on the rectum. The patient sustained no pain excepting from two or three ulcerations which were situated at its most depending part, and were the effects of friction against the contiguous surfaces. She was, however, the subject of profuse fluor albus, and of catamenial evacuations so considerable, that the intervals between them were but of short duration. This state of things brought her into a condition of extreme weakness. An attentive examination made it appear that the tumour was contained within the proper tissue of the vagina, and that it was sound, free from morbid adhesions, and moveable in all directions and throughout its whole extent. It was pliant without being soft, and yielded to pressure without being pained by it. M. Pelletan

having recognised its adipose character, and its situation between the vagina and the rectum, pushed it strongly downwards in the direction of the outlet of the passage with his finger introduced into the rectum. An incision was made through its surface from the ulcer at its most depending part to its very summit high up within the passage. The finger, and in some places a small spatula, was introduced between the tumour and its envelope, by which were ruptured the membrano-cellular fibres which slightly connected their respective surfaces together. The tumour thus separated from its connexions in front, was then detached from the rectum by a bladed instrument which was scarcely edged, and which rather served to rupture than to incise the intermediate cellular tissue. Its removal was followed by an effusion of blood, which continued some time, and which occasioned some uneasiness, although it did not come in jets, and that it was not of an arterial hue. To arrest this discharge, but more especially to restore the vaginal tissues which had enveloped the tumour to their relatively proper places and connexions, the vagina was charged with lint, which was not removed till the fifth day after the operation. It is probable that from that moment a complete reunion took place; for there was no perceptible formation of pus. The patient subsequently had her catamenial evacuations at the proper periods, and in suitable and natural quantities. The fluor albus also gradually ceased, and the general health was eventually perfectly restored. Pelletan, *Clinique Chirurgicale*, tom. i. p. 203.

A specimen of a fibrous tumour situated between the vagina and the bladder is described at some length in the same valuable publication. A woman of about thirty-two years of age, having the appearance of excellent health, the mother of four children, was the subject of a tumour which presented itself on the right side of the vagina. Whilst she sustained no inconvenience from it, she consulted no person on the subject. But when the tumour acquired a size sufficient to give her some annoyance, she sought the opinion of M. Pelletan. That skilful surgeon soon discovered that it was mobile, and that the patient herself could push it through the external orifice by the slightest effort of bearing down. He moreover assured himself that the vaginal tissue which covered it was perfectly sound and healthy, and that it was connected to it only by very loose cellular membrane. He therefore proposed its removal by excision. The patient, however, declined to submit to the operation; and she retained her tumour for two years longer. In the mean time it acquired a very considerable volume, forming a globular body of about six inches in diameter. It was indeed so large and so situated, as to occasion much pressure both upon the rectum and upon the bladder, as also unavoidably to interfere in no trifling degree with the functions of both organs. The patient still possessed the power of pushing it through the external orifice by a bearing-down effort. It was then easy to grasp it with the fingers, and deliberately to ascertain the moveableness of its corresponding vaginal covering; or in other words, that it was connected with the proper tissue of the vagina only by very loose cellular texture. M. Pel-

letan moreover satisfied himself, that the tumour was not now intimately connected with the bladder. It encroached greatly on the uterus, especially on the upper part and on the left side of the pelvis; a circumstance which furnished a proof that it was situated in the cellular tissue connecting the neck of the bladder with the vagina. M. Pelletan again proposed the operation of extirpation. He considered that the tumour was extending in its dimensions, and that already it was all but too late to ensure the preservation of the patient from dangerous consequences. Some of the surgeons consulted were of opinion that the case might be one of cancer. But the best informed were only apprehensive of the results of any operation which might be necessary to effect the removal of the tumour. M. Pelletan himself entertained some doubts as to the precise nature of its constituency. But its isolation, or rather its loose connexion with the proper tissues of the parts on the locality and functions of which it had encroached, made him easy as to the results of an operation. The patient in the mean time confided in his opinion, and founded upon it her entire hope of recovery. The operation was accordingly determined upon. The subject was brought to the edge of her bed, and placed in the usual position for the operation for the stone. Her lower extremities were held on each side by assistants, the legs being retracted. The patient was then requested to make a bearing-down effort to push the tumour out of the vagina. In that situation it was seized by an assistant, who fixed it steadily there with his fingers carried up beyond it. M. Pelletan made an incision through the vaginal structure the whole length of the tumour; which he followed up by a dexterous dissection of it from its connexions; which were everywhere loose and easily separable, excepting at its upper part; where it was very dense, and where he considered that it received large blood-vessels for its nutriment. Over the cellular tissue of that part he threw a ligature consisting of four threads, and separated the tumour immediately below it. The operation was simple, not a painful one, and in its results proved exceedingly satisfactory to the patient. A loss of blood of some amount, and of a colour which indicated an arterial source, gave the operator however some uneasiness. He therefore determined to introduce into the vagina a quantity of lint, sufficient to determine the surfaces which had enclosed the tumour into mutual and intimate contact, and also to act upon them as a compress. By this procedure he prevented an extensive suppuration. The lint was not removed till the eighth day after the operation. The suppuration was exceedingly trifling, and in less than a month the cure was complete. *Clinique Chirurgicale*, tom. i. p. 224. For the fact of fleshy tumours embedded within the substance of the vaginal tissue, see Baillie's *Morbid Anatomy*, p. 427.

M. Pelletan has enriched this important subject by the addition of another important case upon it, of at least equal, if not of superior, practical value to the preceding. A woman of between twenty-four and twenty-six years of age became the subject of a happy parturition. It happened, however, during her

labour, that her surgeon had recognised the presence of a tumour within the pelvis, which being pushed down by the efforts incident to the function towards the outlet of the vaginal passage, had the effect, in some degree, of impeding the transit of the child's head through the neck of the uterus. It did not at the time occur to the practitioner to make any attempt to ascertain the nature of this tumour. But in order more effectually to make way for the due completion of the labour, he pushed it up, and directed it towards the right side of the pelvis. In about eight months subsequently to her confinement, the patient began to sustain inconvenience from the increasing volume of her tumour; inasmuch as it then began to interfere rather distressingly with the functions both of the bladder and the rectum. M. Pelletan was consulted. He introduced his right-hand into the vagina, and felt on the right side of that passage a tumour of between six and eight inches in length, and of about four inches in breadth; and containing, as he was led to presume from its softness, A FLUID OF THE CONSISTENCE OF "GELATINOUS LYMPH." It was moreover his impression that it was immobile, having for its locality the right side of the pelvis, embedded in cellular tissue between the rectum, vagina, and the urinary bladder. He was likewise of opinion that it was an encysted tumour; but that it might not be possible to extract it entire; and that in that event it would be necessary to make a long incision into its cavity, for the purpose of evacuating its contents, and afterwards so to dress it *secundum artem*, as to promote the suppuration, mutual cohesion, and eventual cicatrization of its parietes. The operation, having these objects for its indications, was accordingly undertaken by the ordinary medical attendant of the family, who had requested the opinion of M. Pelletan on the case. That gentleman plunged his bistourie into the upper part of the tumour, and thence made an incision of some length. But no discharge of fluid following, M. Pelletan requested permission to make for himself another examination; and to his no little surprise found the tumour displaced from its former locality, and that now it got its lodgment immediately between the rectum and the vagina. He found it necessary to introduce his left-hand as the other operator had done, in preference to his right-hand, which he had himself made use of during his first exploration. He now came to the conclusion that the tumour was adherent only by very loose cellular tissue, and that in fact it belonged to a class of tumours of which he had already seen more than one specimen. On the invitation of his junior colleague, he proceeded to complete the dissection. To effect that object, he introduced first one finger, and then a second, between the vagina and the tumour. The cellular tissue of the vagina yielded extremely easily; but he encountered much difficulty in getting a good hold of the tumour, for the purpose of rupturing the cellular tissue by which it was connected POSTERIORLY. He, however, attained his object by causing pressure to be applied to the hypogastrium, which of course would have the effect of impelling the tumour into a situation more immediately within his reach. He had scarcely effected

his purchase when the cellular tissue at the back part of the tumour gave way; which it did without giving the patient any great degree of pain. The tumour then sank into the external orifice of the vagina, whence it was immediately withdrawn without further difficulty. There was no more effusion of blood than what followed the first incision into the vaginal parietes. The parts were washed and cleansed; and the two operators waited long enough to ascertain that no hæmorrhage was likely to take place. The vagina was charged with pledgets of fine old linen and lint, in order to force the surfaces of the cavity which had contained the tumour into mutual apposition. The patient was put into her bed; and consoled for the pains which she had endured, by a view of the diseased structure which could no longer involve either her life or health in jeopardy. The tumour proved to be a LYMPHATIC one, concrete as to its consistence, but sufficiently soft to be moulded by the hand into any form which might be wished to be given to it. It was enveloped by cellular tissue, similar to that which is usually found to adhere to the surfaces of the kidneys. The cellular tissue of its posterior surface was exceedingly delicate, and presented no appearance of vessels which could have been ruptured during its forcible detachment from the parietes of its investing cavity. The integrity of its membranous covering furnished a most satisfactory proof that it had been wholly and perfectly removed. The patient recovered rapidly and without accident. *Clinique Chirurgicale*, tom. i. p. 234.

OF A COLLECTION OF GASEOUS FLUID ENCLOSED WITHIN THE CELLULAR TISSUE OF THE RECTO-VAGINAL SEPTUM.—The author has not himself met with a single example of a case of this kind. With the assistance of M. Murat he is enabled to refer to one quoted by Paulini. *Collection Academique*, partie étrangère, tom. vii. p. 511.

OF AN ENCYSTED URINARY CALCULUS, EMBEDDED IN THE CELLULAR STRUCTURE CONNECTING THE NECK OF THE BLADDERS WITH THE VAGINA.—In illustration of this point of pathology, the author is not aware that there are on record more than two or three well-attested examples. Of these, one occurred in the practice of De Haen, in 1756, in one of the public hospitals at Vienna; where he was at the time the Professor of the Practice of Medicine. De Haen, *Ratio Medendi in Nosocomio Practico*, p. 1. cap. 7. But a more interesting example, of which the precise nature was not discovered till after the death of the subject, is given by Hartmann in the *German Ephemerides*, dec. ii. an. 5. obs. 71. The learned reporter of that case states, that in the month of November 1682, he inspected the body of a female who had been the subject of a perineal hernia of the bladder. The patient had some ten years before her death voided four calculi by the urinary passages. In the mean time there was found in the neighbourhood of the orifice of the vagina a very painful tumour, which was opened without affording relief;

the puncture having been followed by no other discharge than that of a small quantity of pure blood. On the occasion of the dissection, a calculus was extracted from the same locality, which weighed three ounces. It was lodged in a cul de sac of the bladder, on the left side of the perineum, where it caused a visible projection. On the first general inspection of the hypogastric cavity, there appeared to be no bladder; but Dr. Hartmann passed one hand into that of the pelvis, seized the neck of that viscus immediately under the pubis, and with the other applied to the perineum, bore the vesical pouch or cyst upwards. The portion which formed the descent, had its parietes as thick as the plume part of a goose-quill, and was engorged with blood. A probe could not be made to enter into the other portion of the bladder, which was concealed under the pubis. The cistocele was complicated with prolapsion of the rectum. The patient, during the latter days of her life, voided her urine drop by drop in the most frightful agony; whilst at the same time the passage by the rectum was totally blocked up.

OF TUMOURS, INTERMEDIATELY SITUATED BETWEEN THE PARIETES OF THE VAGINA AND THOSE OF THE PELVIS.—Deposits of morbid structures, situated within the pelvis, but exteriorly to the parietes of the vagina, must, it is obvious, most importantly interfere with the functions of that passage. Judging from the cases of tumours of this class which have been recorded, it seems certain that a large proportion of such of them as have fallen within the observation of competent reporters, have been either strongly suspected, or have actually proved to have consisted of one of the ovaries in a state of morbid enlargement. Baudelocque's *System of Midwifery*, Heath's Translation, vol. iii. p. 207. Perfect's *Cases in Midwifery*, vol. ii. p. 341. See also some admirable cases on the same subject, by Mr. Park of Liverpool, in the second volume of the *Medico-Chirurgical Transactions*, and also by Dr. Merriman, in the 10th vol. p. 50, of the same work. A valuable case of ovarian tumour, treated by puncture, occurred in the practice of the late Dr. John Ford, and is quoted in Dr. Denman's *Introduction*, chap. 10, § 7.

OF EXTRA-PERITONEAL TUMOURS WITHIN THE PELVIS.—Of extra-vaginal tumours of the pelvis, some are within the peritoneal cavity, as must all ovarian tumours be, as well as some others to be noticed in the sequel. There are, however, still others, which are EXTRA-PERITONEAL, as well as extra-vaginal. The author requests the attention of his reader to the facts of a very important case of this description, published in the *Edinburgh Medical and Surgical Journal*, vol. i. p. 23. The communication was made to the editors of that respectable work by Dr. Drew, of Fermoy, county of Cork; being the latter of two cases of tumours in the pelvis growing out of the sacro-schiatic ligaments. Dr. Drew had been, some time previously, interested professionally in the fate of a lady, THE SUBJECT OF HIS FIRST CASE, who had

died from retention of urine, accompanied by other violent symptoms, that had been occasioned by the pressure of a large tumour which occupied the entire cavity of the pelvis, and which had one of the sacro-ischiatic ligaments for the seat of its origin. On examination of the body after death, it was discovered that the greater part of the fatal tumour, the whole indeed with the exception of its root, was but slightly attached to the parts which surrounded it; and that immediately after its stem had been cut through, "it came away like an almond blanched from its skin." On reflecting on this important fact of the dissection, it occurred to Dr. Drew that the patient's life might possibly have been saved by a surgical operation; which indeed he afterwards suggested to some of his professional friends in the following queries; viz.—1st. Could not an incision have been made at one side of the perineum and anus backwards towards the os coccygis, and the root of the tumour be come at and cut through? and, 2ndly, As it was so easy to detach it from the contents of the pelvis, might it not have been removed without much difficulty? He then proceeds to observe, "that should any artery in the neighbourhood of the perineum be cut, it could easily be taken up; and as the tumour itself received no branch from the internal arteries of the pelvis, the hæmorrhage in all probability would not be great." Such were the impressions of Dr. Drew on the subject of the important case just related. In about a year afterwards, he was called to another case of a similar character, and at least of equal interest. "Mrs. M., of Lismore, had been two days in labour before I saw her, and was attended by Dr. Power, Dr. Hannan, and Mr. Peck, surgeon to the 41st regiment of foot. These gentlemen were puzzled at the presentation; and so I should have been had I not met with the preceding case. It was exactly the same. The tumour grew out of the right side, and occupied the cavity of the pelvis so completely as to admit of passing only one finger between it and the pubes, by which I could scarcely reach the head of the child." She said she had for some months back laboured under dysuria, so that the catheter had been employed by a surgeon who attended her, and who had attributed that affection to her state of pregnancy, supposing it to arise from the pressure of the gravid womb: that she had lately acquired the knack of pressing on the tumour with her finger, which enabled her to void her urine without assistance. Being convinced of the nature of the case, I related that of Mrs. Shaw, and represented the possibility of removing the tumour with a prospect of success; at least with more than would attend the Cæsarean section. Embryulcia was out of the question: it could not be performed. There was no room to extract the child: and if it had been practicable, since the mother's life could be prolonged for a short time only, it involved in it a crime: and to leave our patient undelivered would have been cruel and unprofessional. They therefore willingly consented to the operation proposed. It was performed on the 26th of August.

"Having laid my patient on a table, in the posture of operating for lithotomy, my assisting friends holding each knee, and the midwife the shoulders, I made

my incision by the right side of the perineum and anus, towards the os coccygis; and with the second stroke of the scalpel, brought the tumour into view. I passed my finger before and behind its root, which I easily divided with the knife; introduced my hand, and detached it from the side of the pelvis; withdrew that hand, and introduced the other, by which I separated it with equal facility from the vagina and rectum, and, to the great pleasure and surprise of my friends, brought it away. A gush of blood now took place: I crammed in a sponge, which instantly checked it. An artery near the perineum spirted: this I laid my finger on, and could, if necessary, in an instant have taken up; but all hæmorrhage completely ceased. We now turned our attention towards the support of our patient; assured her that all her danger was over. No fainting occurred. Her pulse was sufficiently distinct and strong. We administered a little wine: but the best of cordials was the great pleasure and satisfaction she saw in the countenances of us all. A labour pain now came on, succeeded by another and another: the head descended into the cavity of the pelvis: the sponge was protruded from the wound. We kept our patient for an hour on the table, expecting she would be soon delivered: but finding her labour grow tedious, we removed her into bed. Here we trusted to the efforts of nature for six hours. Finding that the child was presenting with its face towards the pubes, and apprehensive of her wanting strength, I applied the forceps, and delivered her of a living child, which has since continued well. The placenta came down into the vagina, and was easily removed. No hæmorrhage took place. Four stitches were passed through the lips of the wound, and a large sponge was thrust into the vagina to keep the sides of the cavity which contained the tumour in contact; and all the other requisite arrangements and comforts were employed. We waited on her in the evening; found her as well as we could wish; drew off about half a pound of urine with the catheter, for the sponge prevented her from voiding it herself; left her to her repose, and next morning visited her again. She slept well, and complained of little pain from the wound. We drew off her urine, and drew off the sponge from the vagina, which I washed out with a syringe, and found completely free from any injury or ulceration: we replaced the sponge, and dressed the wound with a pledget and T bandage. August 28. An enema was administered yesterday morning without effect. Some castor oil was given in the evening, which produced rather too many evacuations: but no bad symptom took place. We removed the sponge from the vagina, and found the space which the tumour had occupied completely obliterated; but two of the stitches had given way, and left the lips in part separated. The sponge was now omitted, and the lips were again brought together with a strip of adhesive plaster. An anodyne was prescribed to check the catharsis, and two scruples of bark were ordered to be taken three times in the day. Here our reports ended, as no unfavourable symptom occurred. I visited her for the last time on the 29th, and found her able to suckle her child; both completely

well. The wound perfectly healed, without a vestige of any ill consequence from the operation. Mrs. M. is a slender and delicate woman, aged about twenty, and married twelve months; had once before marriage some slight suppression of urine, but attended with no pain. The tumour measures fourteen inches in circumference, weighs about two pounds eight ounces, and is of the same nature and consistence as that found in the pelvis of Mrs. Shaw.

“As the above cases are very uncommon,” proceeds Dr. Drew, “as the operation was attended with unexpected and signal success, and the cure proved complete; and since many of the profession are inclined to discredit such cases, it may not be amiss to subjoin the testimony of those who were present. I have therefore obtained the signatures of Dr. Power, Dr. Hannan, and Mr. Peck.” In the original communication, the signatures of the said gentlemen, together with that of the talented contributor of the case himself, are accordingly subjoined in due form.

The case of steatomatous tumour, quoted by Dr. Denman, chap. 10, § 7, of his introduction, will occur to the reader as one bearing great analogy to the above more successfully treated cases of Dr. Drew. “Leave was given,” observed Dr. Denman, “to open the body,” the patient having died on the fourth day after her delivery, “and when the pelvis was examined, the tumour, which was imagined to be a projection of the bones, WAS FOUND TO BE AN EXCRESCENCE OF A FIRM FATTY SUBSTANCE, SPRINGING FROM ONE SIDE OF THE UPPER PART OF THE SACRUM, and passing across so as to fill up the greater part of the superior aperture of the pelvis. In concluding his notice of the case, Dr. Denman has recorded an opinion totally at variance with the actually attained result at least of one of Dr. Drew’s cases; viz. that “had the real nature of the tumour been known before the time of labour, it would not have been proper nor within the bounds of art to have attempted, or to have afforded the unhappy patient any other assistance than what was given to her, that of being delivered, probably at a late period of the labour, by the operation of lessening the child’s head.” The author begs in an especial manner to refer a point of so much importance in the treatment of such deplorable cases as have now been related to the further and most deliberate consideration of practical surgeons.

OF PRESSURE AND OTHER FORMS OF ENCROACHMENT ON THE PARIETES OF THE VAGINA, OCCASIONED BY DIVERSE MORBID FLUIDS DERIVED FROM EXTRA-VAGINAL SOURCES.—A case is in the recollection of the author of an intense inflammation of the left ovary, which terminated in an abscess so extensive as ultimately to involve the peritoneal flooring of the left lateral portion of the posterior chamber of the pelvis. The patient referring the greater part of her distress to the hypogastrium and small of her back, an examination was made to ascertain the state of the uterus. The orifice and neck of that organ were extremely tender to the touch, but presented no other indication

of disease. Whilst, however, this inquiry was being made, a large fluctuating tumour was felt to occupy the left and posterior portion of the pelvic cavity, which had the effect of causing an extensive projection or convexity OF THE CORRESPONDING PORTION OF THE VAGINAL PARIETES towards the interior of the passage. This examination was instituted more as a matter of satisfaction and diagnosis, than as one of much anticipated utility. The event of the case was already too fatally determined. The abscess was the result of a severe and much-mismanaged labour. On examination of the body after death, the matter of the abscess had eroded its way through the peritoneum of the posterior chamber of the pelvis as already stated, into the cellular structure connecting the vagina and rectum with the inferior portion of the pelvis on the same side.

The author is indebted to his friend Dr. Stroud for the notes of a case which must be considered as one immediately illustrative of the point of pathology under present consideration. Elizabeth Hunt, a married woman, fifty-three years of age, was admitted a patient of the Northern Dispensary under the care of Dr. Stroud, about two months before her death. During the previous four or five months she had suffered severe pains, first in her feet, afterwards a little above the right knee, and ultimately in the neighbourhood of the right hip joint. Her health was already much broken, and she was very feeble and emaciated. She was lame from the state as supposed of the hip joint. Her appetite was greatly diminished. Her sleep was disturbed, and she was the subject of a slight hectic fever. During the patient's first visit to the Dispensary, she assigned no cause for her complaint except cold, and fatigue from laborious occupations. But during her second visit it was ascertained that, some months before, there had been a discharge of blood from the vagina, accompanied by a fainting fit, and that subsequently to that period blood had occasionally issued either from the vagina or from the rectum. The alvine dejections were said to be contracted and of a flattened form. Under these circumstances an examination per vaginam was proposed, and with some reluctance permitted. "Two fingers introduced into that passage, although with the greatest caution, gave much pain, and were withdrawn covered with blood. A hard round substance, supposed to be the uterus diseased and displaced, was found near the orifice of the vagina, projecting backwards in the direction of the rectum. On account of the tenderness of the parts, and the great weakness of the patient, a more accurate examination was deferred to a future opportunity. In the mean time the suspicion of a malignant disease of the uterus, which had been previously entertained, was now considered to be confirmed." The narrative of Dr. Stroud's very judicious practice is here omitted, inasmuch as the pathology of the case must be considered as the author's exclusive and proper object. The reader will presently see that no treatment, however excellent, could have importantly contributed to mitigate the severity of the disease, or to avert its final and fatal issue. The following were the

appearances which presented themselves on inspection of the body after death. **EXTERNAL SURFACE.** "The body was extremely emaciated; although between the muscles and the skin there were some slight remains of a yellowish fat. The features were sharp and contracted. The waist was remarkably slender, and the pelvis proportionably broad. The right iliac region presented an extensive cushion-like prominence. Each groin contained an enlarged and projecting absorbent gland; which on puncture discharged a thick whitish pulp. Both feet were rather swollen. The right thigh was not more wasted than the left. The head and spine were not opened. **THE THORAX.** The cartilages of the ribs were very short, and the ensiform cartilage was extremely narrow. The heart was quite sound, and contained recent coagula on both sides. The left auricle was rather large, and the right ventricle small. The venous trunks were full, and the arterial ones empty. The coronary vessels, particularly the veins, were beautifully injected, embossing as it were the surface of the heart with abruptly serpentine lines. The mediastinum was thin and transparent, without a particle of intervening fat or cellular membrane. The pleura contained some ounces of red serum. The left lung had contracted some few slight adhesions to the sides. Some of its lobules were a little œdematous, and two or three bony or tephaceous concretions were imbedded in its substance. In all other respects the lungs were healthy." **ABDOMEN.** "The œsophagus was thin, and, as it were, membranous, but sound. The stomach was small, and its pyloric half so contracted as to appear like one of the intestines; which indeed did not partake in the general emaciation, but were rather thick and plump. The lower portion of the colon contained at intervals balls of hardened dark-coloured fæces; which in shape and size resembled chesnuts, and which could be easily seen and felt through the coats of the intestine. The mesenteric glands in common with the alimentary canal were free from disease. With the exception of a single crude tubercle of a scrofulous aspect in its centre, the liver was sound. The gall bladder was of full size, and of a dark green colour, containing a considerable quantity of nearly black bile, without concretions. The spleen and the pancreas were in a healthy state.

"Owing to the kidneys being devoid of surrounding fat, the supra-renal glands were more than usually distinct; being of a crescentic form, reddish colour, and almost of a cartilaginous firmness. The right kidney was very large, and of an uniform oval shape as if double, in consequence of its bulging on each side of a sort of depressed mesial line which ran longitudinally along its anterior edge. On an incision being made into its substance, its pelvis was found distended with pale limpid urine, and the infundibula exhibited a series of large pouches or cells, divided by firm and prominent intervening membranes. The ureter was thin, semi-transparent, and dilated to the size of the fore finger. The cortical portion of this kidney was thin and dense, owing apparently to its having being much compressed between the distending force within and the investing capsule. The left kidney, on the other hand, was in a condition almost

the reverse of that of the right; its cortical substance being thick, red and fleshy, its pelvis much contracted, and its ureter not larger than a crow quill.

“ Thus far with the exception of the state of the kidneys, and of the general emaciation of the body, no very remarkable morbid appearances had been observed: but on continuing the investigation downwards, the principal disease was at length discovered to be A LARGE ABSCESS, WHICH HAD EXCAVATED THE RIGHT PSOAS MUSCLE, extending outwardly to the groin, and inferiorly to the bottom of the pelvis; where it had formed a considerable opening into the vagina, and another into the rectum. The contents of this sac, measuring more than a pint and a half, chiefly consisted of a thin greenish pus, besides a quantity of large white coagula, which being heavier than the liquid portion, had fallen to the bottom of the cavity, and found their way into the vagina and rectum, but had prevented the escape of the pus. The vagina actually contained some of these coagula which were precisely similar to those in the abscess, with the exception of their being extremely fœtid, owing apparently to their having come in contact with atmospheric air. In every other direction the sac was closed. But there was a small distinct abscess on the left side of the rectum, and rather behind it; where also and on the lumbar vertebræ, the whole cluster of absorbent glands was enlarged, and presented a pulpy appearance, as if in a state of suppuration.

“ When emptied of its contents, the sac of the abscess was found to be extensive and uniform. Its walls, consisting of the expanded fibres of the psoas and adjacent muscles, were still in most parts rather thick and firm, and its internal surface naked and granular, without any lining of adventitious membrane. Its cavity was traversed from above downwards by the anterior crural nerve, which was entirely denuded: and at one point seemed to be contracted and almost reduced to a membrane; while above, and more especially below, it became suddenly large and dense, to a greater extent perhaps than could be explained by the ordinary ganglion of the nerve. As far as could be ascertained by a superficial examination, neither the sacrum nor the spinal column presented any marks of disease. But about the right sacro-iliac symphysis, the bone was deprived of its periosteum, and roughened by ulceration; and at one place, probably at the symphysis itself, the tip of the fore-finger detected a narrow groove or indentation dipping downwards into the substance of the bone. The limits prescribed to a private inspection, would not allow a full investigation of this point. The parts chiefly involved in the disease were now removed from the body in a mass, and submitted to the examination of Dr. Carswell, Professor of Pathological Anatomy in the University of London. The general result of that gentleman's inspection was, that the uterus and the bladder were nearly sound. The ovaries were indurated and contracted into slender chords, consisting of several oblong white opaque grains, like millet seeds: but this appearance was regarded by Dr. Carswell as not unnatural at the woman's advanced period of life. The cellular tissue situated between the neck of the

uterus, the superior and posterior part of the vagina, the rectum, and the sacrum, was deprived of its peritoneal covering, ragged, of a pale yellow colour, more or less indurated, thickened and infiltrated in several parts with pus, which was either fluid or in a concrete form. The peritoneum in the neighbourhood of these parts presented several bands of accidental cellular tissue; which, however, had not occasioned any change of situation, either of the uterus itself or of its appendages. The posterior half of the vagina situated immediately behind the orifice of the uterus, was completely destroyed by an ulcer more than an inch in breadth, exhibiting the appearance of a transverse groove with sharp edges above and below, and presenting the same characters as the diseased cellular tissue already described. With that tissue it communicated laterally, and below with the rectum, by an opening sufficient to admit the thumb. The posterior lip of the orifice of the uterus, which formed a part of the superior margin of the vaginal ulcer, was similarly affected, and to a certain extent destroyed. The anterior lip of the orifice of the uterus was somewhat rough, irregularly red, and vascular, yet not thickened, but, on the contrary, rather flat. The perforated portion of the rectum was thickened, rather ragged, and slightly infiltrated with a puriform fluid, but presented no trace of scirrhus induration. The mucous membrane of the intestine around its whole circumference in front of the perforation was very red, vascular, and swollen. On the mucous membrane at the fundus of the bladder, and towards its left side, there was an inflamed spot, and another in the angle of the peritoneum, between the vagina and the rectum; at which places, had the patient lived a little longer, additional openings would probably have been formed from the abscess into the bladder and into the peritoneum."

OF ABDOMINAL ASCITIC FLUID ACCOMPANIED BY GREAT RELAXATION AND EXTENSION OF THE PERITONEAL LINING OF THE PELVIS, PRODUCING PARTIAL PROLAPSION OF THE VAGINA AT THE EXTERNAL ORIFICE.—In cases of advanced ascites it is notorious that the peritoneal sac must sustain a degree of enlargement and extension proportional to the quantity and volume of the fluid effused into its cavity. During the reduced state of health usually attendant upon cases of ascites, all the soft tissues of the body become relaxed, and, more than at other times, competent to yield to the force of any mechanical pressure which may be applied to them. The peritoneal lining of the pelvis, though apparently better supported by the parietes which it invests, than its superior abdominal portions, has however in common with them been sometimes known to yield to the distending force of great quantities of hydropic fluids which have become incumbent upon it. The delicate cellular tissue which connects the lateral and inferior parts of the pelvis to the vagina, becoming also in its turn obedient to the action of pressure upon it, the external surfaces of that passage become ultimately exposed to the distending force of the effused abdominal fluid, and its parietes are made to appear at the vulva in the

form of a partial vaginal prolapsion. The tumour so formed has usually presented a soft and smooth surface, and for the most part only so much of its characteristic rugose appearance as may have served to decide the peculiar nature of the prolapsing tissue. The first symptom ordinarily felt by the subject of a partial descent of the vagina from this cause, is an inconvenient sense of fulness at its inferior and posterior part. That inconvenience gradually increases from day to day, until the patient's more particular attention is determined to it, when an actual tumour is found to protrude between the labia. Upon applying pressure to the part so protruding and enlarged, it immediately yields and diminishes in size; its parietes in consequence of the compression becoming a loose and flaccid pouch. During the posture of sitting, which the patient from other causes is not unfrequently obliged almost permanently to assume, the tumour is found tensely distended; but when she lies down, or when any counteracting force is applied to it from below, it becomes again relaxed and flaccid. To ascertain the state and position of the orifice of the uterus, the examining finger must be passed up anteriorly to the tumour. Its diagnosis from a hernial protrusion of the same part, will be noticed under the descriptions respectively of vaginal and perineal hernia. The parietes of the tumour under present discussion being made up of the whole thickness of the vaginal wall, and of the produced but not ruptured nor ulcerated peritoneal investment of the posterior chamber of the pelvis, it is obvious that a puncture or incision made through the parietes of the tumour would furnish an outlet to any quantity of ascitic fluid which might be effused into the abdominal cavity. We accordingly find that the consideration of this fact, about half a century ago, suggested the performance of the operation of paracentesis, for the relief of ascites at the most depending part of such a vaginal prolapsion as has been now described. The first recorded account of a case of tapping by the vagina was published in 1784, in the first volume of the Medical Communications, p. 162, by Mr. Henry Watson, then one of the surgeons to the Westminster Hospital. The subject of that case, who however was not the first person on whom that gentleman had performed the operation of tapping by the vagina, was a Mrs. Whithey, of Brook-street, Holborn, a middle-aged woman, of rather a delicate constitution and RELAXED HABIT OF BODY, AND THE MOTHER OF SEVERAL CHILDREN. She had been a sufferer from anasarous swellings of her legs and thighs for about two years previously. She had also been much incommoded by an umbilical hernia. On Mr. Watson's first visit he found the abdomen prodigiously distended by an effusion of hydropic fluid into its peritoneal cavity; of which the fluctuation was evident enough above, but not quite so distinct below the navel. The lower region of the abdomen was so exceedingly tense and hard, that the undulation of the fluid was rendered comparatively obscure. The hypogastrium was become very pendulous, so as to reach half way down the patient's thighs. "Her respiration was much oppressed, and she was in great need of some immediate

or temporary relief." It was moreover ascertained, that a tumour presented itself between the labia pudendi, which had the character of a partial prolapsion of the vagina. "It was occasioned by the water," observes Mr. Watson, "which evidently flowed into this part from above; for I could easily return the vagina upon pressing back the water; but on removing my hand, the water would as readily force it down again." The precise nature of the case being thus satisfactorily made out, Mr. Watson proceeded without loss of time, in the presence of two of his professional friends, to draw off the water effused into the abdominal cavity by puncturing the vagina; which in that case appeared to him "the most eligible part for the operation." Having fixed his patient conveniently in a standing posture, leaning on the back of a chair, the operator passed a large hydrocele trocar through the vagina, and drew off four gallons of a greenish fluid of a somewhat viscid consistence, but without the least offensive smell. When some quarts of the fluid had been discharged, the patient, who felt a little fatigued with her posture, was seated upon a night chair, where she was requested to remain till she was pretty completely drained. The canula was left in the vagina all night; but the abdominal cavity had been already so well emptied, that very little more water was discharged during that period. The next morning the patient was found greatly relieved. She could breathe pretty freely, and with ease; and she "felt," as she expressed herself, "very comfortably, having got rid of so great a weight." She had also made water freely, which she had not done for some time before she underwent the operation. She had had some pain in her bowels during the night; but in consequence of having had two or three alvine evacuations, that pain had subsided. "UPON REMOVING THE CANULA A HYDATID PRESENTED ITSELF AT THE WOUND;" but when taken hold of for the purpose of being extracted, the patient complained of her bowels being hurt. It was therefore cut off with a pair of scissors. What had been drawn out contained no fluid; but it had the appearance of having been a part of a pretty large gelatinous bag. The quantity of fluid drawn off having been so considerable, and yet without producing a corresponding reduction either of the size or hardness of the lower part of the abdomen, Mr. Watson was induced to conclude that there might be more hydatids, an indurated liver, or a diseased omentum to contend with; and therefore that the case would most probably end fatally after all. His anticipations were, indeed, but too truly verified. For about a fortnight or three weeks after the operation, the poor patient appeared to mend: her appetite returned: her spirits improved: she gathered strength, and she flattered herself with the hope of an eventual recovery. Subsequently, however, to that period, she began to have fresh pains in her bowels; her spirits again became more depressed, she lost her appetite, and the abdominal cavity was re-loaded with effused ascitic fluid. In something better than two months after the former tapping it became absolutely necessary to repeat the operation. For a short time her symptoms were again ameliorated; but in about three months after the second operation she yielded to the common destiny.

APPEARANCES ON DISSECTION. There was no water in the thoracic cavity, nor any unusual quantity of fluid within the pericardium. "The heart," observes Mr. Watson, "was uncommonly small, and I have never met with one either before or since so buried in fat. As there was still evidently water in the abdomen, I introduced a trocar and drew off several pints of it. It was very yellow and viscid, and a few sloughs flowed through the canula along with it. Upon opening this cavity we found more of the viscid fluid lying in the hollows on each side of the loins and in the pelvis. The omentum was small, but very thick and fleshy, as it often is after inflammation." "The liver was of a bright yellow colour throughout, with its form so altered that there was no distinction of lobes to be observed. It was exceedingly thick, of an oblong figure, with its usually thin edge ending in a large round protuberance. The kidneys, spleen, and pancreas, were very sound, and of their usual size, form, and complexion. The uterus appeared small and firm. The right ovary was a little enlarged and of a deep yellow colour; but the left was transformed into a large cyst with thick coats, which contained a yellow viscid fluid," &c. &c. "The hydropic ovary was about the size of a pig's bladder when distended, AND OCCUPIED THE CAVITY OF THE PELVIS; a situation it certainly had not gained at the time we operated; for it was evident the trocar had never reached this bag, and that the great quantity of fluid evacuated by the two operations must have been contained in the general cavity of the abdomen, there being no other that would have contained so much." The reporter of the case then proceeds to state his opinion of the preference due to the operation of tapping, by puncturing the vagina, as the means of drawing off completely the fluid collected within the abdominal cavity in cases of ascitic dropsy. "In the common way of tapping," observes Mr. Watson, "whatever position we place the patient in, whether sitting on a chair, lying upon a bed as the French surgeons advise, or in whatever other situation, we never can evacuate all the water: some must and will remain within the pelvis or lateral parts of the abdomen; because the puncture is always made above the most dependent parts; but in this new method of operating we can drain off almost every drop of the fluid. The centre of the vagina is the proper part to be punctured, as the vessels are smallest there, the larger branches distributing themselves on the sides. In performing this operation, as the vagina is never distended to the tightness of a blown bladder, it will be apt to recede from the trocar. In order therefore to make the puncture efficiently and soon, it is necessary to pass two or three fingers up the side of the vagina, partly behind the bag; that by pressing it gently we may confine the fluid, and make the bag as tense as possible; which will be found greatly to facilitate the introduction of the trocar. I have three times performed this operation with all desirable success. On the first occasion it was in the presence of Dr. Denman, whose patient I tapped through the vagina with a lancet; when indeed we had a most considerable bleeding: for in most dropsical patients the poorness of the blood, and the relaxed state of the ves-

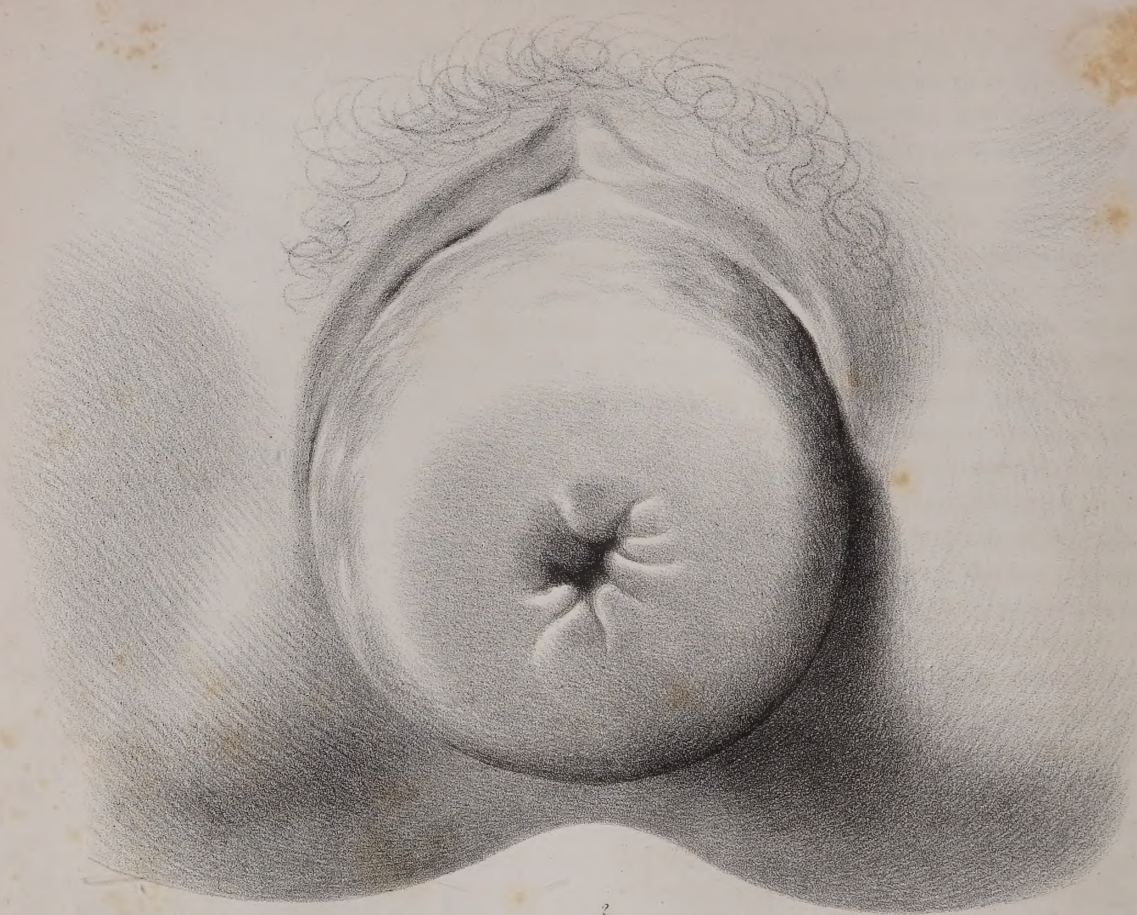
sels incline them to bleed freely, and the vagina is a very vascular part. But if we use the round trocar, which is by much the better instrument for this operation, we have scarcely any bleeding of consequence; the canula making an equal pressure all round upon the mouths of the divided vessels. A long towel or band is to be wrapped round the abdomen, as in the common operation, to keep up a moderate pressure during the flow of the water. A flannel roller dipped in spirits must also be applied after the operation; and a thick warm cloth is to be placed conveniently over the pudendum, so as to imbibe any moisture that may ooze from the wound; but to the wound itself there is no need of any application." The author may be expected to apologize to his readers for giving the above case at so great a length, though considerably abridged from the original report. The authority of Mr. Watson is still remembered and respected in the profession. His mode of operating has been both applauded and imitated by other members of our faculty: and there is yet recorded in one of the most practical and popular text books of midwifery in England, that of the late candid and talented Dr. Denman, an allusion to Mr. Watson's operation, unaccompanied by any expression of disapprobation of it. Denman's Introduction, chap. 4. § 3. Sir William Bishop's paper, *Medic. Communications*, vol. ii. p. 360.

Having stated thus much, the author may be permitted to declare his deliberate preference of the old mode of tapping by the abdominal paracentesis. 1st. Because the new or vaginal puncture has not been succeeded by any more prosperous results than that through the abdominal parietes. 2nd. Because the perfect draining of the fluid contents contended for by the proposer as an advantage incident to the new operation, may, in some peculiar cases of ascitic accumulations, prove not a little unfavourable to their most anxiously hoped-for issues. 3rd. The new operation must be considered as inconvenient and inapplicable in all cases of ascites in the female, excepting in those few which are complicated with prolapsions of the vagina. 4th. Because the abdominal viscera, which in relaxed states of the general health, and during a greatly enfeebled and distended condition of the peritoneal sac, must be expected to have a tendency to sink towards the more depending part of the abdominal cavity, especially in that posture of the body which has been recommended as most convenient for the performance of the vaginal puncture, and therefore to become particularly accessible to the surgeon's lancet or trocar. 5th. Because prolapsions of the vagina, containing ascitic fluid, might be mistaken for, or even complicated with, hernial descents of the bladder or of portions of intestine, the dangerous wounding of which would be hazarded by the new operation. The author recollects an instance of a part of the ileum becoming adherent to the peritoneal lining of the posterior chamber of the pelvis. The patient died of acute inflammation of the bowels. But if she had recovered, and become subsequently the subject of abdominal dropsy, what could have prevented the adherent intestine from being penetrated mortally by the trocar used as recom-

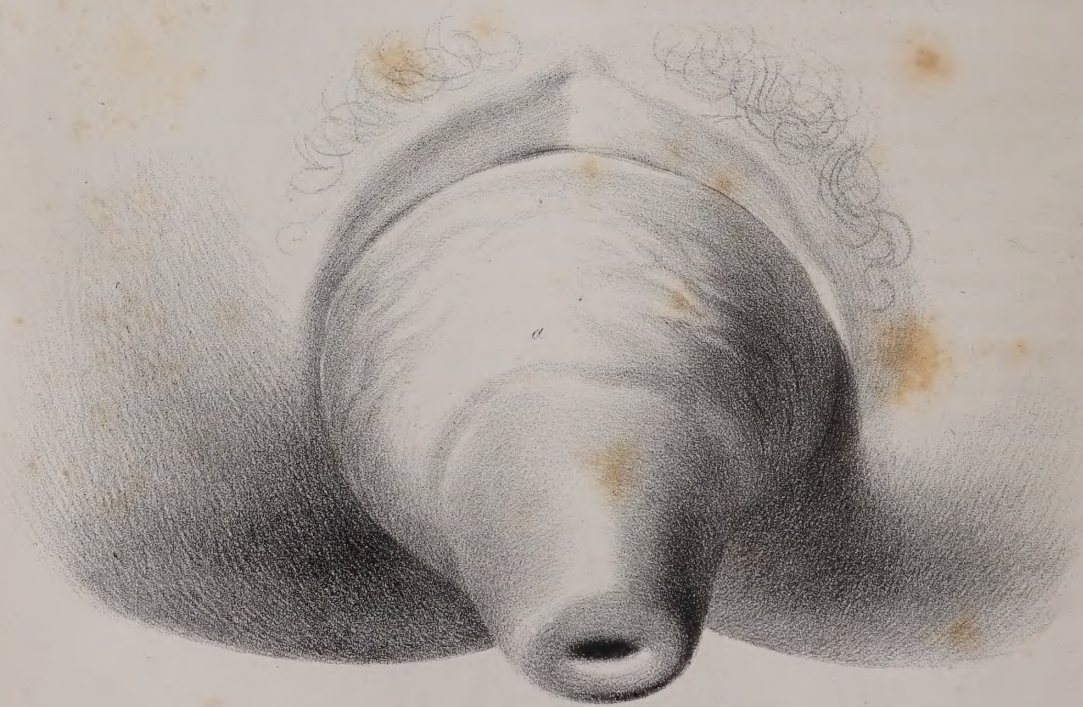
mended by Mr. Watson? The pathological fact alluded to, will be readily attested by Mr. James, of Norfolk-street, Strand, who, with the late Dr. Sims and the author, attended the subject of the case, and by Mr. Allan, of Epsom, who performed the post-mortem examination. In the detail of the pathological facts observed during the inspection of the body of Mrs. Whitney, Mr. Watson himself states, that the HYDROPIC OVARIUM OCCUPIED THE CAVITY OF THE PELVIS; which situation, he however adds, it had not gained at the time of the operation. Admitting the correctness of this assumption, it would only prove an accidental circumstance of date, without materially affecting the fact of the general possibility of such a descent of a diseased or even of a sound ovary into the lower pelvis, as would expose it to the liability of being wounded by the operation of tapping by the vagina. 6th. Mr. Watson was himself aware of the great vascularity of the vagina. Add to that the liability of some of the more considerable branches of the internal iliac arteries to be diverted by displacements of the pelvic viscera from their natural localities and directions. 7th. This mode of tapping for abdominal dropsy has not been sanctioned by the adoption of any considerable number of eminent surgeons either in this or in any other country.

OF PROLAPSION OF THE VAGINA, WITHOUT BEING PRODUCED OR ACCOMPANIED BY THE PRESSURE OF MORBID ABDOMINAL FLUIDS AGAINST ITS PARIETES.—This mal-position of the vagina may be partial, so as to affect only one portion of the entire circle of its parietes; it may consist in a moderate descent from relaxation of a superior portion, producing an inconvenient or even a painful bearing of it upon an inferior part of the same continuous tissue; or it may amount to a presentation of the prolapsing structure at the external orifice; or it may even form a large protruding tumour which shall reach to some distance beyond the level of the labia pudendi. It may be confined to a relaxation and descent simply of the mucous membrane of the passage, which may however quite suffice to occasion much inconvenience and distress to the sufferer; or it may involve the entire parietes of the vagina, and even implicate by its connexions the adjoining viscera in the general consequences of its own displacement. Sabatier sur le déplacement de la Matrice et du Vagin. Mémoires de l'Académie de Chirurgie, tom. iii. p. 361—393. Précis d'Operations de Chirurgie par Le Blanc, tom. ii. p. 280. The worst forms of prolapsion of the vagina may actually amount to an entire protrusion and inversion of all its parietes. Some authors have introduced among the several forms and degrees of vaginal prolapsions, the technical distinction of essential and symptomatic; the first consisting of relaxation and descent simply of the mucous membrane of the vagina; and the second amounting to a general looseness or disruption of its external parietes from their naturally adjoining surfaces, and to a total inversion of all its tunics. An incipient inversion of the vagina presents itself at the external orifice, under the form of a simple descent of some one portion of its mucous membrane; and is to

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be distinguished by its relative position to the uterus, of which the orifice will be found higher up in the passage and totally unconnected with it; and also by its retaining something of the feel and appearance of its peculiar and characteristic rugose structure. The portion of the mucous membrane of the vagina most liable to become thus incipiently the seat of descent, is that which is naturally connected by cellular tissue to the rectum and perineum; and hence the symptom of a sense of uneasiness, as if from the presence of a tumour at the fundament, accompanied by occasional efforts of bearing down, and not unfrequently by much painful irritation and tenesmus. A descent exclusively of an anterior portion of the mucous membrane, is a partial mal-position of the vaginal tissue, which is met with much less frequently than the former; and when it does happen, it can scarcely fail to disturb the functions of the bladder and the urethra. A sense of fulness and an actual intumescence of the part, are felt in this case in front of the vaginal passage immediately within the vulva. In greater degrees of relaxation, the mucous membrane becomes more extensively implicated, so as to involve a tract of it of less or greater depth, commensurate with the entire circle of the passage. At length, an irregularly roundish tumour presents itself at the external orifice, exhibiting more or less distinctly the rugose plicæ characteristic of the surface of the mucous membrane of the vagina. Upon a more particular examination of the prolapsing tumour, something of the appearance of an aperture, formed by a puckering or gathering together of its surrounding folds, will be found at its most depending part. The finger gradually insinuated at this part will pass readily through its converging parietes, and encounter the vaginal portion of the uterus, either immediately behind it, or else at a very little distance beyond it. The vagina thus inverted and presenting, forms a tumour of a much larger diameter than is formed by the vaginal portion of the uterus when prolapsing and occupying the same situation. This difference between a prolapsion of the vagina primarily, and a descent of the uterus, accompanied by a partial inversion of the vagina, is very correctly indicated in the two figures purposely drawn from actual specimens to represent these facts, and exhibited in Plate X. The first figure gives very precisely the idea of AN ADVANCED DEGREE OF A PROLAPSED VAGINA. The aperture at its most depending part is formed by the puckering and gathering together of a superior portion of its mucous tunic. At the menstrual period, the catamenial fluid will necessarily be seen trickling through that opening; which has led careless practitioners to mistake it for the proper orifice of the uterus. The external surface of the entire tumour, given in figure 1, is therefore the mucous membrane of the vagina. Within the body of the tumour, constituting its principal bulk, and accessible at a very short distance from its aperture, is the uterus; that organ being dragged down much below its natural situation by the prolapsed vagina. Figure 2, represents a true prolapsus of the uterus amounting to a slight degree of what has been technically called *PROCIDENTIA* of it. The orifice to be seen at its most depending part differs from the opening in the other figure, by being

a transverse chink or lengthened aperture, stretching across from side to side, which are truly the form and direction of the orifice of that organ in its natural and healthy state. The inferior or uterine part of the tumour is obviously smoother and more polished as to its surface, and gives the idea of a firm and dense structure within. What is presented to the eye above the boundary ridge, which may be observed to encircle the tumour at a, is the superior part of the mucous membrane of the vagina inverted. What occupies the interior of that part of the tumour is of course a portion of the body of the uterus.

The predisponent causes of descents of the vaginal parietes are, their forcible and frequent distension by the bearing of many children; their occasional exposure to much inordinate force of distension during the performance of the operation of turning and of some other manœuvres incident to the practice of the art of midwifery; labours of great severity and long duration from whatever causes; careless personal management during the puerperal period; and a delicate state of the general health. In incipient cases of descents of the vagina, when a portion only of the mucous membrane prolapses, the inconvenience is for the most part not very great, amounting to little more than a sense of weight and pressure felt at the external orifice. When the prolapsion is more considerable, the functions of the bladder and rectum are often not a little disturbed; and when the presenting tumour becomes so large as actually to amount to a procidentia, such as is delineated in the first figure of the plate already referred to, then the patient will have to sustain some of the several symptoms incident to prolapsions of the uterus; such as violently aching pains about the loins, hips, and thighs; dragging pains at the groins; great tenderness of the surfaces; immediately implicated; a more or less abundant fluor albus; irritation of the bladder, with difficulty in voiding its contents; a corresponding state of the rectum; a painful chafing of the surfaces about the vulva from the constant contact and pressure of the tumour upon them; a state of angry irritation and even of inflammation of the surface of the tumour itself, from its exposure to the action of friction against the patient's linen, and especially to that of a constant stillicidium from the bladder. In some few cases the tumour has become so much engorged and strangulated, that it has actually fallen off in a state of mortification. *Mémoires de l'Académie Royale de Chirurgie. Mém. par Sabatier, tom. iii. p. 390. Essai sur Différentes Hernies, par M. Hoin. Le Blanc. Précis d'Operations de Chirurgie, tom. ii. p. 347.*

In incipient cases of prolapsion of the mucous membrane of the vagina, the treatment is generally very simple and successful. The patient will have little more to do than to wear a sponge pessary of sufficient size to keep the relaxed parietes of the vagina in their proper situation. With a little instruction, this simple piece of mechanism will be readily introduced by the patient herself. The finest pieces of sponge will of course be required for this purpose; and several will be to be provided, in order to secure frequent changes. The patient should always wear a pessary of this kind in the day time. After the sponge

shall have been effectually introduced into the vagina, it should be charged with an astringent lotion of alum, white vitriol, or acetate of lead dissolved in distilled water. The charge should be repeated three or four times daily; which will both promote cleanliness, and serve more effectually the principal indication for which it is to be used, viz. that of restoring by the astringent and corrugating action of the fluid the diminished tone of the relaxed tissues of the vagina to which it is immediately applied. After the patient shall have worn a sponge pessary of sufficient size to answer the earliest demands of her case for about ten days or a fortnight, it will admit in most cases of being clipped down into a smaller size; and in this way of being repeatedly reduced in size, until a pessary of any size shall altogether cease to be necessary. The material of the pessary here recommended being of an animal nature, it is obvious that the patient should be duly impressed with the necessity of frequent changes. It being the indication in incipient cases of vaginal prolapsions to accomplish a radical cure of them, the author begs to express his opinion that he knows of no other description of pessary that could be depended upon for the attainment of that object; whereas on the contrary he could quote a number of cases in his own practice, where the object was effectually attained by the use of the sponge pessary. In a more advanced stage of the vaginal descent, where there might be a considerable protrusion of the inverted tissue through the external orifice, the same method might be tried; and in recent cases even of the degree of descent here supposed, it would not unfrequently meet the wishes of the medical attendant beyond his most eager expectation. The trial might be made in some chronic cases; inasmuch as in a certain proportion of them the same method of treatment has occasionally proved successful. It should however be remembered, and strongly impressed on the patient's mind, that success will most importantly depend upon her own unfailing assiduity and dexterity, and that the neglect of the proper treatment even for half an hour in certain positions and during certain exercises of the body, might compromise advantages derived from entire weeks of regular compliance with the medical attendant's instructions. On failure of the sponge pessary to meet its intended indication, some other form of support on the same principle will be required to be substituted. The form and materials of such pessaries will receive a more extended consideration when we come to treat of polypi of the uterus.

The practice recommended by Rhoonhuysen and some other writers, of removing a part or the whole of the prolapsing tissue by amputation, has not, as far as the author knows, been sanctioned by the adoption nor even by the recommendation of English surgeons. However that may be, he is free to own, that notwithstanding the general impunity which is represented to have attended it, it seems to him both harsh and hazardous beyond the well-founded necessities of the cases to which it has been recommended to be applied. In child-bearing women, the abstraction of any considerable portion of the parietes of the parturient passage might lay the foundation of dangerous or fatal ruptures

of the vagina in subsequent labours. In women more advanced in life, operations of that kind might be followed by other perilous consequences; whereas to the majority of such persons, the wearing of well-adapted pessaries, made either of ivory or wood, might be attended with little or no inconvenience. In the worst forms of descents of the vagina, to which the epithet of procidentia has been usually applied, the first duty of the practitioner is to effect the reduction of the prolapsing tumour. After the accession in such cases of severe inflammation, and consequently of much enlargement of the surfaces as well as possibly of the entire substance of the tumour, that duty might be attended with extreme difficulty. The varieties of displacement of the vagina will be found complicated with descents of the uterus, and not improbably with considerable deviations from their respective positions in the pelvis both of the bladder and the rectum. "In inversion of the vagina, and prolapsus of the uterus," says Dr. Baillie, *Morbid Anatomy*, p. 430, "if the cavity of the pelvis be examined, the fundus only can be seen with its appendages very imperfectly, or the whole of the uterus is hid entirely. The bladder then appears to be in contact with the rectum. In this state of the uterus and its appendages, I have known adhesions formed between them and the neighbouring parts. These must have rendered the reduction of the uterus and the vagina to their natural situation very difficult, and perhaps till the adhesions were a good deal elongated, impossible." The fact here reported by Dr. Baillie, naturally suggests the importance of effecting the reduction of the vagina under the circumstances of such complications AS EARLY AS POSSIBLE. During the presence of much swelling and phlogosis of the prolapsed structures, it will be found necessary to apply leeches to them in considerable numbers, and subsequently fomentations, to promote a copious discharge of blood, before any serious attempt at reduction is undertaken. In this way the tumour will become so materially reduced in volume in many cases, that its replacement subsequently will become a matter of comparative facility. The persevering application of pressure to it from below, a soft sponge being interposed between it and the practitioner's fingers, will very rarely fail to attain the object ultimately. In these worst varieties of complicated descents, sponge pessaries will rarely suffice to sustain the parts in their proper situations, after their reduction shall have been duly accomplished. The practitioner will therefore have to make his choice, according to the circumstances of the particular case, of a ring or globe pessary; or possibly in some extreme forms of procidentia, of other and more complicated contrivances. The mechanical part of this subject will receive further consideration hereafter.

OF HERNIAL PROTRUSIONS OF INTESTINES, FORMING TUMOURS WITHIN THE VAGINAL PASSAGE.—Vaginal hernia of the intestines, though comparatively of infrequent occurrence, is a subject which for many years has been well known to pathologists. In order to apprehend distinctly the precise nature and locali-

ties of the intestinal protrusions in question, as well as some others which in the sequel will require some portion of the reader's attention, it will conduce considerably to the advantage both of reader and writer, that they should have a common understanding of the anatomical structure and mutual relations of the several parts which constitute the flooring of the human pelvis. We have already seen that the pelvic cavity in the skeleton is formed by the union of several bones, which together constitute the external parietes of the inferior portion of what is called the abdominal cavity of the body, where are naturally contained all the intestines as well as the liver, uterus, bladder, and other important viscera. In the entire subject, the superior and anterior part of the same great cavity is protected by a pretty strong walling of moveable and almost indefinitely distensible tissues, consisting of muscles, cellular membrane, and integument. Above, it is bounded by a transverse walling, also moveable and distensible, but nevertheless possessing very considerable power both of protection and resistance, called the diaphragm. But behind, and to a certain extent below, its external boundaries are made of the strongest materials that nature has been known to employ in the architecture of animal bodies: and hence these portions of the external parietes of the great cavity in question are only slightly moveable, and in no degree distensible. The reader will next naturally determine his attention to the construction of its inferior boundary, where are situated the sexual organs, together with the several passages and tissues which constitute the great outlets of the body. The interior of the abdominal cavity is lined throughout the greater part of its extent by a delicate but tenacious serous membrane, which, in addition to several other important functions which it sustains, serves pre-eminently the purpose of giving a uniform and a common surface of attachment and connexion to the other multiform structures already enumerated, as its principal architectural materials. It is in consequence of being thus connected to a common surface that the other parts are kept mutually together, and in sufficient lateral contiguity to ensure the more or less perfect continency of the cavity as an enclosure for its visceral contents. It is indeed for this reason that hernial protrusions are not every-day occurrences. But notwithstanding the admirable beauty and general efficiency of this contrivance for providing a secure and permanent lodgment to the visceral contents of the abdominal cavity, experience proves that circumstances have occasionally occurred which have sufficed to weaken, and actually to make breaches in certain parts, and more especially in those parts of the surrounding parietes least fortified by the original strength or continuity of the outworks. Hence the occurrence of hernial protrusions ALMOST EXCLUSIVELY AT THOSE PARTS where the materials of the external walling are most sparingly employed, and where contiguous structures are most easily separated by the accidents of life, or by the more gradual operation of causes of over-distension and consequent reduction of strength to which the developments incident to the operations of certain functions, and espe-

cially to the presence of certain diseases, almost unavoidably expose them. If we apply these general considerations to what we know of the anatomical construction of the inferior part of the abdominal cavity, especially in the female, we shall place ourselves in a situation to understand and satisfactorily to account for the comparative frequency, as well as for the several varieties of hernial protrusions and prolapsions to which women are especially liable. To adapt the pelvis for some of its peculiar offices in the female body, it is necessarily made much more capacious than that of the male subject. See chap. ii. p. 8 of the present work. For the purposes of parturition, it can moreover be occupied only by structures almost unlimitedly distensible during the application of the influences of that eventful function. The peritoneal flooring of the abdominal cavity is thus left naturally more or less exposed to the morbid influences of whatever causes of over-distension that may be applied to it. In all the cases of vaginal hernia of the intestines of which the histories are recorded, the descents have presented themselves either anteriorly or posteriorly to the orifice of the uterus. At the peritoneal cul de sac, constituting the pelvic bottom of the abdominal cavity, there are spaces, which, from the fact of their being respectively situated anteriorly and posteriorly to the natural locality of the uterus, are called the anterior and posterior chambers of the pelvis. Beyond the limits of these chambers inferiorly, the peritoneum does not extend. They are divided from each other principally by the uterus and its lateral productions the broad and round ligaments. The abdominal portions of the uterus, including the whole of its body and a small part of its neck, are invested by a peritoneal covering. On either side of it, its membranous investments meet, and by mutual coalescence of their fleshy surfaces form two strong and broad webs of membrano-ligamentous tissue, which serve to connect it to the lateral parietes of the pelvis by numerous and equidistant points of attachment. These duplicatures of the peritoneum, together with the body of the uterus itself, serve, as has been already stated, to divide the female pelvis into the two chambers alluded to. Now it is the yielding of the peritoneal lining of each of these chambers, consisting as it does of only one layer of the membrane, and being perhaps as little sustained by the support of contiguous structures as any other part of the peritoneum; it is the yielding of the peritoneal lining of these chambers to the superincumbent force applied to them that lays the foundation and constitutes the beginning of entero-vaginal hernia. When the flooring of the anterior chamber, which is bounded by the bladder anteriorly, by the uterus posteriorly, and by the round ligaments on each side, becomes the seat of distension and protrusion, the hernial descent takes place laterally, and somewhat anteriorly within the vaginal passage. Directly anteriorly, it cannot indeed take place, by reason of the intimate connexion which subsists between the neck of the bladder and the vagina: whereas in a descent from the posterior pelvic chamber, which occurs much more frequently than the anterior protrusion, the

tumour is found to present laterally and more posteriorly. The envelopes or constituents externally of the cyst of this variety of intestinal protrusion, are one or more of the tunics of the vaginal parietes of the part affected greatly relaxed and distended, and the peritoneal lining of the anterior or posterior chamber of the pelvis, as the case may be, produced and still more distended. In cases of simple entero-vaginal hernia, such as are here supposed, the ligaments of the uterus, as well as that organ itself, are presumed to maintain their natural integrity and their relative positions within the pelvis. But in cases of more extensive relaxations of the peritoneal fastenings of the uterus to the pelvis, and especially of disruption or other diseased conditions of its lateral ligaments, it is obvious that entero-vaginal hernia may become complicated both with prolapsion of the uterus and retroversion of the bladder. With respect to the constituency of the hernial sac, Baron Boyer observes, *Traité des Maladies Chirurgicales*, tom. viii. p. 347, "that it is not yet determined, whether in all cases of entero-vaginal hernia, both tunics of the vagina are distended at the same time, or whether by opening for itself a route through the fibres of the external tunic by merely separating them, it effects the distention only of the internal tunic."

The intestine which most frequently protrudes in entero-vaginal hernia, is the ileum; although in some few cases the colon and the cæcum have been implicated in the descent. The vaginal swelling, occasioned by the intestinal prolapsion of which we are now treating, is soft and elastic, perfectly compressible on the application of pressure, "increasing by standing, and diminishing or entirely disappearing when the patient lies down. It becomes more tense when the patient holds her breath, and an impulse is felt on it during coughing. The contents may be readily pushed up by the hand; but they descend again if the patient coughs or strains." *Lawrence's Treatise on Ruptures*, p. 545. *Sandifort, Observ. Anatomico-Pathologic*, lib. i. cap. 4, *de hernia intestino-vaginali, aliisque hujus morbi speciebus*.

The formation of an entero-vaginal hernia has in a small proportion of cases been so slow and gradual, that the date of its commencement has not been positively known. See *M. Hacknell's* case, as published by *M. Hoin*, *Essai sur les Hernies*, obs. 7; and also probably the case of *Professor Gunz*, *De Herniis Libelli*, p. 84. But in the greater number of cases the intestinal displacements have taken place suddenly in consequence of strong personal efforts, quick movements, violent shocks from falls, and also as results of certain varieties of difficulties incident to the function of parturition. The first recorded case of entero-vaginal hernia, was indeed occasioned by an awkward and rapidly-effected movement of the body, in the instance of a person rendered predisposed to it by a recent confinement. It occurred in the practice of *M. de Garengot*, a member of the French Academy of Surgery, who distinguished himself during an early period of the last century by some very original and otherwise most meritorious contributions to the pathology of

hernia. The subject of that very interesting history was the wife of a costermonger. She sought the advice of M. Garengot for what she considered a descent of her womb. She was a person of middle stature. She had had five children, all of whom had been very large at their birth. About a month after her last confinement she made an effort to assist in lifting a load on the shoulders of a porter. At the instant of that effort she felt a derangement within the abdomen and an acute pain in the vagina, of which also she had a sense of great fulness. She consulted her midwife, who told her that she had a bearing down of her womb, and that she must place herself under the care of a surgeon. She however neglected this advice, and continued to busy herself with her ordinary affairs for some time subsequently. The descent into the vagina became so considerable that it manifested itself at the external orifice, beyond the level of which a tumour protruded about a finger's breadth. The patient felt from time to time pains of an internal spasmodic character, which seemed to take their origin from that part, as also pain of the stomach with sickness. Moreover, she was not able to void her urine except in the position of lying on her back. Informed of these particulars, M. de Garengot discovered on examination a whitish tumour, which not only occupied the vagina, but which projected beyond the labia pudendi in such a manner as to admit of the introduction of a finger between it and the vaginal parietes posteriorly. On passing his finger beyond the tumour in that direction, he could feel the orifice of the uterus occupying very nearly its natural situation: whence he concluded that that organ was not implicated in the existing mischief. He also found that the pressure which this examination caused to be made on the tumour, which indeed was unavoidable, had the effect of reducing it to about one half of its previous size. Such a change in the size of the tumour excited at once the suspicion that it consisted in a descent of intestine. With that impression on his mind he placed the patient in a lying position on her bed, and applied the taxis to the tumour with the utmost accuracy of attention. Whilst this operation was performing, he felt its contents as if receding through the superior and right lateral portion of the vagina: and after the retrocession was effected, it was left soft, relaxed, thin, and imperfectly occupying the space which had been previously occupied by the visceral protrusion. In order to strengthen his conviction that the case was one of entero-vaginal hernia, of which however he had never heard before, nor known any author who had described it, he desired the patient to get up and walk, and also to cough strongly. These movements caused the tumour to present itself immediately again. That circumstance served to establish M. Garengot's conviction that it was actually a hernia. He effected its reduction a second time, and desired the patient to keep her bed until he should be able to supply himself with a suitable pessary. After some failure on this point, in the first instance, a well-adapted contrivance was at length applied, which had the effect of preventing any future descent so completely, that the patient never afterwards sustained any incon-

venience from it. *Mémoires de l'Académie Royale de Chirurgie*, tom. i. p. 707.

The reader will readily observe that in the above case there was every reason to presume that the recent confinement, added to more than ordinary distention of the vaginal parietes by a succession of children of more than average bulk, had produced a state of ready predisposition to the injury which was actually sustained upon the application of an apparently inconsiderable occasional cause. Cases, however, of similar displacements of portions of intestine have occurred during the perfect absence of any condition of parts to which could be attached the presumption of a predisponency to hernia. A young woman of good health and constitution, of a tallish stature, and well-formed proportions, became the wife of a journeyman carpenter when she was twenty-four years of age. Soon after her marriage she had to take some of his meals to her husband, who was working at the carpentry of a house which was then building on the north side of Tavistock-square. Not having been accustomed to walk along the unboarded joists of what are called carcasses of houses, it happened that, on one of these occasions, she lost her footing and sustained a fall which probably would have cost her her life, had it not been considerably broken by a pretty elevated heap of boards and other pieces of timber in various forms of preparation, of which some were reared up incliningly against the side of the wall, and the remainder thrown together horizontally but irregularly on the flooring of the room below. The account which she gave of the effects of her accident was briefly as follows:—She felt exceedingly alarmed at the moment of making her first false step. She made the greatest effort to recover her footing and her balance, but unsuccessfully. She believed that she had fallen between the two joists, which unfortunately furnished the interval or space through which she had been precipitated, with her face foremost. Her left eyebrow and temple sustained a severe bruise by impinging, as she supposed, during her fall, against a heavy plank which was reared against the skeleton of an unfinished partition of the room into which she fell. Her person however still maintained its prone position; inasmuch as immediately after she reached the pile of timber on the bottom of the floor, she was seen scrambling with her face downwards. The shock of the fall was such as to occasion a state of fainting of some duration. When she recovered her recollection, she felt an intense pain of the parts within the pelvis, which she more especially referred to the bladder. The principal appearance of injury externally, presented itself on the right flank between the pubis and the region of the kidneys. About two inches from the navel, on the same side of the abdomen, there was a lacerated wound of nearly three inches in length, and of about half an inch deep. How that was produced it seems difficult to conjecture, as nothing like a corresponding rent could be discovered in any part of her dress. When she was raised on her feet, she found that she could not stand erect, by reason of an extreme exasperation of

pain which that position occasioned to her. She felt, to use her own expression, "as if her whole inside was coming down at her womb." She had a strong impression that HER BLADDER HAD BEEN RUPTURED. The author first saw her at her own house, and in bed, about three hours after her accident. She was then in a state of great excitement both of mind and body. On her road home, and for some time afterwards, she had experienced a shivering fit of great severity. The source of her chief mental distress was the supposed state of her bladder. She made several attempts to void the contents of that organ without being able to succeed; whilst she moreover found, that she could not put herself in the proper position for responding to that call, without exceedingly exasperating a pain which she described, as being a more or less constant condition of the bladder, and without experiencing a renewal of the sensation of the tremendous bearing down already alluded to. The same attempts were also accompanied, or immediately succeeded, by violent retchings to vomit, and painful gaspings for breath, which had more than once terminated in most alarming syncope. Added to the above symptoms, it was stated by her sister-in-law, who was in attendance, that during the last hour she had become very profusely unwell; although she had been the subject of a regular catamenial period about a fortnight previously. On the production of the napkins which had been used in accommodation to this symptom, it appeared evident that the present discharge was one of pure blood.

In the midst of circumstances so uncertain and formidable, it became an obvious and a paramount duty to institute an examination per vaginam as soon as possible. The patient was desired to place herself on her left side and to retract her knees; which however she could not do without considerable assistance. The uterus was found in its natural situation pretty high up within the pelvis. The urethral tract within the vagina, from the anterior part of the os externum to the neck of the bladder, was exquisitely tender to the touch. When the finger was carried up as far as the neck of the bladder, and into the space immediately anteriorly to the vaginal part of the uterus, whither the vividly described apprehensions of the patient indicated it should be introduced, it encountered an extreme degree of intolerance even of the slightest contact. It was not however withdrawn until the author had pretty satisfactorily made up his mind, that whatever the nature of the injury might be, it did not amount to a perceptible solution of continuity of the surfaces there situated. In the meantime no part of the vaginal passage could be ascertained to BE OCCUPIED BY ANY KIND OF PROLAPSION OR INTUMESCENCE. The patient immediately after this examination intimated her conviction that the precise locality of the great mischief which she had sustained, and which she identified in her own opinion with a rupture of the bladder, was the part which had suffered the peculiarly exquisite pain of which she had complained during the application of the finger. She was desired to make another effort to empty the bladder. But the moment she put herself in the proper attitude

for that purpose, she was seized with all the symptoms already described, without however being able to void a single drop of urine. On the removal of the chamber utensil she sunk precipitately, and apparently in great torture, into a sort of hole in her bed, which her previous restlessness had probably occasioned. In this situation, lying on her back with her right knee drawn up towards the abdomen, a second attempt was made to discover any state of the parts within the pelvis, and especially within the vagina, which might throw light on the very distressing symptoms which were too obviously increasing in violence. Whilst this attempt was about to be made, the patient was suddenly seized with renewed efforts to vomit; a circumstance which fortunately led at once to the discovery of the principal injury which she had sustained: for before the finger had passed up high enough to reach the orifice of the uterus, it encountered an intumescence of considerable size, of size indeed very nearly sufficient to fill the upper and middle part of the vaginal passage, and of a soft elastic texture, which could scarcely fail to suggest the idea of a hernial protrusion. Nevertheless, and probably in consequence of the strong impression felt by the patient herself that "her bladder was torn," the author's first notion of the case was, that the tumour was formed BY A PROTRUSION OF THE BLADDER through some over-distended and possibly ruptured portions of the external tunic of the vagina, and of the cellular tissue connecting the neck of the bladder with the neck of the uterus and with the corresponding part of the vagina, of which latter a portion at least was now become the external or vaginal coating of the tumour. The protruding substance, whatever it might ultimately prove to be, had made its first encroachment at the superior part of the vagina, or rather at the very termination of the vagina superiorly, AND INTERMEDIATELY BETWEEN THAT PART AND THE ANTERIOR LIP OF THE UTERUS. The body of the tumour occupied the left side of the vagina somewhat anteriorly. The efforts to vomit persisting during the whole of the time occupied by this investigation, the swelling throughout was exceedingly tense and painful; the patient, however, still continuing to refer her principal torture to the part originally most complained of during the application of the finger.

Under the impression of a hypothesis too hastily admitted by the author as to the constituency of the tumour, his next step, and a proper one at all events, was to ascertain the condition and course of the urethra, and to withdraw the contents of the bladder, by the introduction of the catheter. Contrary in some degree to his anticipation, the catheter passed into the bladder without encountering any difficulty or impediment whatever. The urethra was neither tortuous, elongated, nor in any other way diverted from its natural situation or course. The bladder contained about twenty ounces of urine deeply tinged with blood. This result was highly satisfactory, as it furnished a proof even to the patient herself, that her bladder, though possibly in some degree damaged, was not actually ruptured;

whilst at the same time it furnished to her medical attendant, an evidence at least of considerable probability, that the case would not turn out to be one of *HERNIA VESICÆ*. The evacuation of the bladder was scarcely productive of any sensible relief. The pain of the part already more than once referred to continued unmitigated; and the vomitings, if anything, became more constant and harassing. The true pathology of the case, that of its being one of entero-vaginal hernia, was of course at length admitted; and its principle duly applied in explication of the symptoms which had presented themselves. Accordingly, the patient was again placed on her left side, with her breech raised, and brought to the side of the bed, so as to be as accessible as possible to whatever of operative assistance her case might require. In the instance of a subject whose vagina had never sustained the development incident to child-bearing, it was not unreasonable to anticipate that the reduction of the intestinal protrusion might be attended with some difficulty. Inasmuch, on the other hand, as the herniated intestine had once recovered its natural situation within the abdomen after, it is probable, it had first and perhaps partially become protruded; FOR NO TUMOUR WAS FOUND WITHIN THE VAGINA DURING THE FIRST EXAMINATION; and inasmuch as the descent was at all events of very recent occurrence, there was much reason to hope that a cautious, persevering, and well-conducted use of the taxis might succeed in effecting its reduction. In consideration of the peculiar locality of the tumour, the left-hand was selected for the operation, and by slow degrees the whole of it was introduced into the vagina. It was now most distinctly ascertained that the protrusion had taken place at the part which throughout had been represented by the patient as the seat of her greatest injury. The contents of the tumour were accurately traced up to that part, and by a continuous and equal application of pressure to it with a little humouring with the fingers of those portions of it which were more immediately contiguous to the aperture through which they were now known to have effected their escape, the entire reduction was accomplished in the course of about a quarter of an hour. The retrocession into the abdominal cavity of the most depending, and therefore last reduced part of the prolapsed intestine, was accompanied by a gurgling noise, which made itself sufficiently perceptible both to the patient and the operator. The precise locality of the aperture through which the constituents of the hernia had forced for themselves a passage, could now be well marked by a feeling of a much greater irregularity of the structure which had formed its boundaries, than of the corresponding termination of the vaginal passage on the right side, added to an excessive quantity of the loose and recently overdistended mucous tunic of the part which had formed the external coating of the tumour. For some little time after the gurgling noise was perceived, the author felt convinced that he still could recognise something of substance within the relaxed structures of the part in question; and as the patient continued to complain of much and severe abdominal pain, he was not

without apprehension that a portion either of omentum, or at least of peritoneum, might still remain unreduced. Under this impression, he ceased not to bundle up towards the aperture communicating with the abdominal cavity, every fibre of tissue which he had any reason to suspect might be remains of the prolapsed contents of the hernia; nor did he withdraw his hand until he felt quite convinced that he had effectually accomplished his object. Whilst this part of the operation was being performed, a messenger was dispatched for a large piece of fine sponge for the construction of a suitable pessary. Before the patient was allowed to change her position, the pessary was introduced; and it was so carefully fitted to the part, and was generally so well adapted to its purpose, as to leave no ground for apprehension as to consequences from any changes of position which, even in the course of a few hours, might become very desirable and necessary.

The local interests of the case having been as above described disposed of, there yet remained for consideration some constitutional symptoms of no trifling importance. The final reduction of the hernial tumour, though it in some degree allayed the violence of the retchings to vomit, did not put an end to that distressing symptom. The pulse was become very frequent. It was, moreover, small, flippant, and incompressible. The abdomen, and more especially its hypogastric portion, was exquisitely tender to the touch; whilst the part presumed to be the principal seat of the mischief, the cystico-uterine termination of the vagina, continued to furnish the key note of the patient's complainings. Deliberating on these circumstances, there appeared little doubt that the parts more immediately concerned in the injury, had sustained a serious amount of contusion, and not improbably some degree of laceration. The hemorrhage from the vagina, whatever might be its precise source, had not even yet ceased, and could be considered in no other light than as a proximate consequence of the accident. The bloody colour of the urine, which had been artificially abstracted from the bladder, was an evidence of no very satisfactory condition of that organ. The countenance was yet very anxious and very pale. The extremities were cold. The general surface of the body, that of the abdomen alone excepted, was indeed of a lowish temperature; nor was any portion of it suffused with the genial moisture usually indicative of reaction consequent on the results of dangerous influences, whether from accidents or from the invasion of severe diseases. The abstraction of blood upon an ample scale, presented itself as a first and most indispensable measure for the subduction of such an array of formidable symptoms. Whilst however that measure was being prepared for, Dr. Sims, who at the particular request of the author had been sent for, made his anxiously expected appearance. After hearing a statement of the facts already in the possession of the reader, and personally examining into the symptoms which yet remained to be treated, that estimable practitioner instantly concurred in the propriety of bleeding; and urged its adoption to an amount sufficient to produce fainting. The bleeding, which was carried

to the abstraction of about eight-and-twenty ounces before delirium was induced, was immediately followed by a most marked abatement of the abdominal pain, and still more satisfactorily of the more deep-seated and less-tolerated pain referred by the patient to the region of the bladder. The edges of the integumental wound on the right side of the abdomen were brought together, and kept in mutual apposition by long strips of adhesive plaster. Twenty leeches were ordered to be applied to the hypogastrium and left iliac region, with instructions to promote the bleeding by an assiduous use of fomentations. A pill with one grain of calomel and half a grain of opium was prescribed, and ordered to be taken every two hours, either with or without a dose of a common saline mixture, as the stomach might indicate. The mixture was not to be repeated, if more than once rejected. The observance of the utmost quiescence and silence was strictly enjoined both upon the patient and her attendants.

In about seven hours after undergoing the above treatment, the patient was seen again; when she was found upon the whole in a decidedly improved state. The skin was then universally suffused with a breathing moisture. The stomach was quieted. The pills had been duly retained. The mixture had been more than once rejected and therefore not afterwards repeated. No pain was complained of, excepting on motion. The pulse was soft, rather full, and beating at the rate of 130 strokes in a minute. No urine had been voided, nor was the bladder in any perceptible degree distended. The countenance was greatly improved, both as to expression and complexion. The pills were directed to be continued; but to be exhibited at longer intervals; and an enema was prescribed, but desired not to be administered till the forenoon of the following day. In the course of that day the patient was again seen in consultation with Dr. Sims. She had not been sick since the visit of the previous evening, and she had enjoyed several hours of refreshing sleep. The abdomen was still free from pain, excepting during attempts to move; nor was it so tumid as on the preceding day immediately before the reduction of the hernia. The pulse was 98, soft and considerably sunk in volume. One unsuccessful attempt had been made to empty the bladder; and the enema had been returned soon after its exhibition, and without having answered its intention. The bladder was found to contain about a pint of urine, still highly coloured with blood; which was drawn off with the catheter. The sponge pessary was also withdrawn for the purpose of being substituted for another, a clean one, of the same material. The patient was still sustaining some loss of blood from the vagina; which also, after the removal of the sponge, which was soaked with the same fluid, contained several considerable coagula. That passage was well washed out by repeated charges of warm water injected into it by means of a pint syringe. The introduction of the new sponge tent was effected without occasioning any great distress, excepting during the moment of its being pushed up to its ultimate position at the extremity of the vagina. After however it had been finally and perfectly fitted

to its situation, it was productive of no inconvenience. The abdominal wound was left undisturbed; the patient stating that it caused her no inconvenience whatever. During this visit, which was the last that was paid by Dr. Sims, a prescription was written for a full dose of castor oil and for a gently aperient saline mixture, which operated well in the course of the day. On the subsequent day, the patient's circumstances were still more improved. Her bowels had freely responded to the action of the aperient medicines. Her constitutional symptoms had entirely subsided, her pulse having sunk to its natural frequency of about 80 strokes in a minute. Her abdomen was without fulness and without pain, excepting at the hypogastrium and the left iliac region; where even yet the smallest pressure occasioned much inconvenience. The necessity for using the catheter continued for nearly a fortnight from the date of the accident; and for several days the urine exhibited the same colour of an admixture with blood that it did during the first days of her indisposition. The sponge pessary was withdrawn, and a fresh one charged with a moderately strong solution of alum was substituted, once a day for about three weeks. About that time, when the injured part at the superior extremity of the vagina had become tolerably free from pain, and could bear at least the contact of the finger without the extreme inconvenience which it at first seemed to sustain from the lightest touch, the sponge tents were altogether withdrawn and dispensed with; and a hollow wooden pessary, of a nearly cordiform shape, introduced and worn in their stead. The precise figure of that pessary was that of a boy's whipping-top, with its superior circular edge rounded off, and its upper surface hollowed out gradually from the circumference to its centre, to the depth of half an inch. This instrument, which was perforated both above and below, and made as smooth and as light as it was possible, was withdrawn and re-applied daily, during the first week of its being used. A week's satisfactory trial was considered sufficient evidence of its competency, without adding to the already existing irritation of the parts to answer its intended indication. After the lapse therefore of that time it was left permanently in the vagina; and the ligature, a narrow silken riband which had been attached to it, was purposely withdrawn, to prevent the patient, prematurely and without the advice and concurrence of her medical attendant, from removing it. From that time forward all medical treatment was laid aside. The abdominal tenderness gradually diminished, and in about a month subsequently ceased altogether to be felt; excepting on the application of very considerable pressure. The pessary was removed after it had been worn between four and five months. On its being then withdrawn, it was deemed prudent as a matter of precaution to obtain the patient's consent to resume the use of sponge tents of moderate size, the size to be gradually reduced, for a few weeks longer. The ultimate cure proved perfectly complete, with the exception of a trifling impediment which has ever since attended the function of micturition. The subject of the case is now living, enjoys very good health, and is the mother of several children.

The above narrative has been given at greater length than is usual in the present work, because it is presumed to exhibit an example of a more serious topical injury and involving consequences of greater peril than probably any of the simpler cases of the same variety of intestinal displacement which have hitherto been recorded. The points of practice most worthy of the reader's consideration are, 1st. The early and complete reduction of the hernial protrusion. 2nd. The active means which were used for the subduction of the inflammatory effects of the topical injury which was incurred, and which very certainly involved even the structural soundness of the parts more immediately implicated in the results of the accident. 3rd. The strict and repeated injunctions imposed upon the patient to observe the utmost quiescence, to maintain a horizontal position, and to restrain herself as much as possible from all sudden movements, whether of mind or body, which might have the effect of disturbing the repose of the injured structures during the earlier weeks of her convalescence; and, 4th. The care which was taken that the locality of the hernia, that is the aperture or fissure through which the intestine had effected its prolapsion, should not be left for one moment, AFTER THE REDUCTION HAD BEEN ACCOMPLISHED, unsupported by one or other of the mechanical contrivances which were introduced into the vagina to prevent a return of the protrusion, until a reasonable time had been afforded to the parts, which had been lacerated or otherwise injured, to recover their tone and soundness, and to be restored, by the healing process of mutual agglutination of surfaces, to a state of adequate strength and continuity of structure.

It has been observed that entero-vaginal hernia has more frequently had the posterior than the anterior chamber of the pelvis for its locality. An example of this variety of intestinal prolapsion is quoted by Hoin, which was exclusively the result of repeated and violent efforts on the part of a young lady who was subject to obstinate constipation, to evacuate the contents of her bowels. The case is not devoid of practical interest. An unmarried female of about thirty years of age, and of an excellent temperament, had been the subject for many months of so obstinate a costiveness, that she sometimes went unrelieved for eight days together; whilst she never obtained the required relief without being obliged to make use of the greatest efforts to effect the expulsion of the hardened fæces which had been too long retained in the larger intestines. During one of these efforts, she suddenly experienced an acute pain within the pelvis, which extended to the left iliac region. This pain was violent only for a moment: but it never entirely ceased. On the contrary, it alternately increased and diminished. Its locality also in the sequel, became more extended both towards the inferior aperture of the pelvis and within the abdomen. It was always an affection of the left side of the pelvis. It never however ascended higher up than the crest of the ilium.

Three weeks after the accession of the above symptoms, the patient dis-

covered that she was become the subject of a swelling within the sinus pudendi; where also she frequently felt very acute lancinating pains of short duration. Under the impression that an abscess was forming in that part, she applied emollients to it, got herself bled under the pretext of a precautionary measure, and had recourse to the use of a few half baths. The tumour, however, increased in size, until it protruded a little way beyond the level of the labia pudendi. The anxiety which she at length began to feel on account of it, induced her to consult M. Hoin. The several circumstances which she disclosed to that gentleman, even added to the opportunity afforded him of feeling the protruding tumour, scarcely sufficed to enable him, in the first instance, to judge correctly of the nature of the case; although indeed the fact that she had been habitually subject to spasmodic affections of the intestines, even before the appearance of the tumour, induced him to suspect a prolapsion of a portion of gut into the vagina. Availing himself of the use of the taxis in different positions of his patient, he discovered that the tumour was much more distended and projecting when she was seated than when lying on her bed. It protruded about half an inch beyond the level of the labia majora, was abutted principally against the fourchette, extended about three inches into the vaginal passage, and occupied the left lateral portion of its parietes rather posteriorly. It was not of large volume. The patient was not sensible of any additional inconvenience from the handling of the tumour by M. Hoin; which nevertheless he could not well do, without subjecting it to considerable pressure. But when he proceeded to attempt its reduction, by pressing upon it somewhat more firmly than he had done before, and endeavouring to push it towards its source, she experienced a painful sensation. That pain however bore no resemblance to the lancinating twingings she had been accustomed to suffer. It was much less acute than what she should expect to result from inflammatory action, but something perhaps more considerable than what might be likely to attend simple relaxation of the vagina. As in the case of the costermonger's wife, communicated by M. Garengeot, M. Hoin found, after the contents of the tumour had been reduced, that the vaginal parietes were left loose and bagging; but not giving the sensation of being so very thin and slender as they were described to have been in that case. At the moment of effecting the reduction, there accompanied the re-entry of the prolapsed intestine into the abdominal cavity the gurgling noise, which is almost always an attendant upon that result of the operation. That circumstance was not improperly considered as confirmatory of the opinion which the operator had formed of the nature of the case. From the part of the vagina occupied by the hernia, it would appear obvious, that the portion of intestine which formed it had not followed the same route of descent as has been described to have taken place in the author's case of the carpenter's wife. In the one case the tumour occupied the left side of the vagina somewhat anteriorly; whilst in the other it is described as having occupied it laterally, but somewhat posteriorly. In

the former case, as also in that of M. Garengéot, there was difficulty in voiding the contents of the bladder; whilst in the latter no such difficulty is alluded to, excepting when the tumour was felt to be more than usually dependent; and even then it only operated as a cause of trifling delay. Comparing the symptoms and facts respectively of his patient's case with those of M. Garengéot's, M. Hoin came to the unavoidable conclusion, that in the former, the prolapsed intestine had effected its escape from the abdomen AT THE POSTERIOR PELVIC CHAMBER, intermediately between the rectum and the uterus; and that it had insinuated itself into the loose cellular tissue connecting the fleshy and inferior surface of the peritoneum of that part with the ultimate portion superiorly and posteriorly of the vagina. That such was the locality of the intestinal descent in that case, was proved by the hand, when introduced to ascertain the situation of the orifice of the uterus, being obliged to be passed up ANTERIORLY TO THE BODY OF THE TUMOUR; whereas in cases of prolapsion of the intestine by the anterior route, as in the case of the carpenter's wife, the examining finger is obliged to be passed up between the tumour and the posterior parietes of the vagina. This is a very simple diagnostic rule for determining the locality of entero-vaginal hernia of each variety. Another, which was first propounded by M. Levret, *Observations sur les Polypes, &c.*, p. 162, is derived from the direction of the changed position of the uterus, occasioned by the one and the other variety of intestinal descent. This rule is however not absolutely to be depended upon, inasmuch as the uterus has remained totally unaffected as to its position during the presence of entero-vaginal hernia. That was most unequivocally the fact in the case of the carpenter's wife. An additional circumstance which may serve to distinguish an anterior from a posterior descent, is the ordinarily inferior extent of protrusion in the former than in the latter variety. In the former the tumour presents laterally and anteriorly relative to the vagina, and for the most part high up near the orifice of the uterus; whereas in the latter it occupies the posterior and lateral portion of the vagina, and extends ordinarily as low down as the vulva, and in some cases even so far as to project beyond the level of the pudendum. It is however a fact common to both varieties, that the tumour should have a bearing towards, and principally occupy, one or the other side of the vagina. It is indeed obvious, that by reason of the occupancy of the median district in front by the strong walling of the urethra, and of the same behind by that of the recto-vaginal septum, the tumour in each case must receive something of a bearing towards either side.

The hypothesis of any considerable change of position of the uterus as an accompaniment of simple entero-vaginal hernia, appears to have owed its importance in the history of this variety of intestinal displacement more to the fact of its occurrence in one case quoted by M. Levret, than to its actually forming an essential part of the ordinary pathology of such cases. Upon perusing the history alluded to, the reader will perhaps see sufficient rea-

son to ascribe the mal-position of the uterus mentioned as forming a part of that case, to other causes than the simple descent of the intestine into the vagina.

M. Levret reports, that towards the year 1747, M. Louis, who was at that time surgeon to the General Hospital at Paris, gave him the opportunity of examining a case of an intestinal hernia which occupied the left side of the vagina. The subject of the case was the dead body of an unmarried woman, who had died at the hospital in a state of idiocy. The tumour was of sufficient size to occupy nearly the whole of the vaginal passage. Its reduction was easily effected by the taxis. On opening the body, three eminent surgeons recognised the hernia to be one of the sigmoid flexure of the colon. M. Levret presumes, that it had existed as a congenital conformation, or at least from a very early age of the subject; for the acetabular portion of the ileum was observed to be much inferior in point of relative position on the side of the hernia than on the other. In other respects the skeleton was entirely free from deformity. The situation of the uterus was singular. Its fundus was determined obliquely towards one side of the pelvis; so that the ovary on the side of the descent was more elevated than that of the opposite side. The orifice of the womb was determined towards the right side. The general configuration of the organ did not materially differ from its ordinary shape. It was only curved laterally, relatively to the direction of its length; its convexity corresponding with the side of the hernia; whilst its concavity was directed towards the iliac aperture opposite to that of the descent.

But it is much more important in practice to establish the proper distinctions between hernial protrusions of intestines into the vagina and other kinds of tumours occupying the same passage, than between the several varieties, at least in their simple forms, of such protrusions themselves. It might be very possible for a practitioner not much experienced in matters of this kind, to mistake, for instance, a case of hernial descent for prolapsion of the vagina. The practical result would of course be, that he would content himself with merely introducing a pessary into the vagina, without previously effecting the reduction of the hernia; and of such a blunder the consequences it is obvious might be very serious. A woman had for some years been the subject of an entero-vaginal hernia, which occupied the vagina anteriorly. She had sought no remedy, because she had considered her case to be one of simple bearing down of the vagina. She was, however, at length induced to consult M. Hacnel on the subject. That gentleman at once recognised the nature of her malady, and by an adroit adaptation of a sponge pessary to it, AFTER PREVIOUSLY REDUCING THE HERNIA, effected a speedy cure of it. Gunz de Herniis libellus, p. 84, et seq. The same author refers, however, to another history, where a mistaken diagnosis in a case of the same kind, suggested an operation which proved fatal to the patient. "A woman was the subject of a tumour which occupied one side of her vagina, and which presented itself at the orifice of that passage. She consulted a

surgeon, who, it was believed, mistook it for an abscess, and plunged his bistouri into it. The incision was immediately followed by a protrusion of the cæcum, and of a great part of the colon, which were strongly propelled through the incised aperture by the involuntary efforts of the patient, increased no doubt at the moment by the pain from the infliction of the wound. The protruded bowels were not attempted to be reduced. Gangrene of course supervened, and the poor woman died." Prof. Gunz. loco citato.

From what has already been described of the localities of entero-vaginal hernia, the reader will have seen that such descents always have for their seats, relatively to the pelvis, either of the two spaces separated from each other by the uterus, which are called its posterior and anterior chambers. In the case of the young woman, a patient of Guy's-hospital, quoted by Sir Astley Cooper, the intestine had effected its descent from the posterior chamber, so that it occupied the vagina posteriorly and to the left side. "This hernia protrudes," observes Sir Astley, "into the space that is left between the uterus and the rectum. Between this reflection and the perineum is situated a loose cellular membrane, the pressure of the intestine upon the implicated portion of peritoneum, forces it downwards towards the perineum; and being unable to pass further in that direction, it is pushed towards the vagina, and projects its posterior part forwards. This hernia has been sometimes found placed more laterally, producing a tumour on the side of the vagina instead of its posterior part. If this tumour then were dissected, the vagina would be found covering it anteriorly. Behind this is placed the peritoneum, and then the intestine would be seen in the peritoneal sac, between the vagina and the rectum." The reporter of the case then proceeds to express the surprise which he once had felt that these morbid descents do not more frequently occur than they do; inasmuch as the small intestines are for the most part the subjects of the protrusions; whilst the reflection of the peritoneum is too feeble to support any considerable pressure; but "I believe," he proceeds, "the reason of its being comparatively rare is, that the oblique position of the pelvis is unfavourable to its production. In the erect as well as in the sitting posture, the intestines fall rather upon the symphysis pubis and the bladder, than on the posterior part of the pelvis: and when thus gravitating into the anterior part of the pelvis, they push the uterus against the rectum, and close the space which would be otherwise existing between them. But for the oblique position of the pelvis, this must be a very frequent disease: for upon passing my fingers in the dead body from behind the uterus in the cavity of the pelvis in women who have died a few weeks after delivery, I have found that I could thrust the reflection of the peritoneum between the uterus and rectum, readily down to the perineum." Cooper on Hernia, edit. ii. p. 56. A case was communicated to Sir Astley by the late Dr. John Sims, furnishing another example of intestinal descent from the posterior chamber of the pelvis; and inasmuch as his late most valued friend, Dr. Sims, made it more than once the subject of conversation with the author, the latter may be permitted on the present

occasion to quote it for the benefit of his readers. He, Dr. Sims, was called to Mrs. P., a lady under thirty years of age, who had a tumour of the posterior part of the vagina, which passed down between it and the rectum, and thrust the vagina forwards. The nature of this case had been dubious to those who had previously attended: but the doctor became acquainted with its real nature by finding that he could distinguish solid fæces within the tumour. He directed a clyster to be thrown up: and the swelling became soft, and then yielded to the pressure which he made upon it. Notwithstanding the swelling was very large, Mrs. P. continued to have children: but she suffered great inconvenience from a sense of bearing down whenever she used exercise; so that she was on that account prevented from taking it; and all the persons the doctor has seen in this disease suffered extremely from the same symptom. The immediately succeeding case quoted by Sir Astley, also from Dr. Sims, furnishes an apposite example of the inconvenience here represented. "A lady, aged thirty-five years, consulted Dr. Sims for a hernia at the posterior part of the vagina, which rendered it difficult for her to take any exercise, and entirely incapacitated her from doing so, IF SHE DID NOT WEAR A PESSARY." This case is especially valuable for the statement which immediately follows. Pieces of sponge were at first deemed sufficient for the purpose of preventing the descent of the hernia; but they were found to be inadequate for the purpose; and she was under the necessity of wearing a globe pessary, which succeeded extremely well, at least in removing the uneasiness and sense of weight in the part of which she had previously complained.

The existence of entero-vaginal hernia, when the descent takes place from the posterior pelvic chamber, may be ascertained by examination, either by the vagina or by the rectum; inasmuch as the tumour must be considered as being, although somewhat indirectly, placed between those two canals. This point of the pathology is noticed also by Sir Astley Cooper, and is well illustrated by a case which occurred in the practice of the late Dr. Haighton. "Dr. Haighton, observes Sir Astley, informed me that he had seen an example of a tumour of this kind descending between the vagina and rectum. When pressed upon from the vagina, it protruded the rectum. When compressed from the rectum, it forced the vagina upon the os externum." From the concluding clause of the brief description given of Dr. Haighton's case, it may be presumed that he considered it as one of perineal hernia; for he adds, "Whilst the perineal hernia is capable of being reduced, it may be prevented from descending, by the pressure of a pessary, which must be of a large size." Similar to the foregoing case of Dr. Haighton's, and nearly amounting to one of perineal hernia, is that of Dr. Smellie, case 4, no. 2, collection 11. The mode of management adopted by that eminent practitioner was so proper and successful as to deserve the reader's acquaintance with it. In the year 1731 he was called to a woman, who had felt a swelling on the left side of the anus which had gradually increased it. When she was in bed it always disappeared, but when up and

on foot it again returned. This hernia continued down all the time of her first labour; upon which an inflammation and strangulation of the intestine ensued; so that it could not be reduced as usual. She sustained a large discharge of blood after delivery: and by having recourse to discussing fomentations and warm emollient cataplasms the stricture was overcome and the hernia reduced. On the occasion of her next labour the intestine was forced down again. The progress of that labour was early and rapid: but before the head of the child had descended into the cavity of the pelvis, Dr. Smellie was enabled, by introducing his hand into the vagina and pushing the head above the os sacrum, to effect the reduction of the hernial protrusion. The membranes were ruptured by the operation. The waters being discharged, the head was forced rapidly down into the pelvis, so as to take possession of the space previously occupied by the descending intestine. By that procedure the patient was safely delivered without undergoing the same risk as she had been exposed to on the former occasion. Another case of hernia complicated with parturition, case 6, no. 2, of the same collection published by Dr. Smellie, was communicated to him in a letter from Mr. Stubbs of Bedfordshire. That gentleman was called to a woman near forty years of age, who was represented to be in labour with her first child, and to have been for ten hours under the care of a midwife. The membranes were already ruptured. On his arrival he found the vagina and pelvis occupied by a tumour, which, during the first application of the taxis, he mistook for the head or nates of the child. He had scarcely room, he observes, to introduce his fingers between it and the pubis. On dilating, however, the os externum, and pushing up the tumour, he found the orifice of the uterus largely developed, and the child's head resting against the pubis. After having ascertained these facts and withdrawn his hand, which was much cramped in consequence of the pressure which it had encountered, and deliberated upon the nature of the tumour; he came to the conclusion, that it probably consisted of a portion of intestine; which had been forced down at the back part of the vagina; which really was the case. He therefore again introduced his hand; and by the application of pretty firm pressure upon the tumour, he effected its reduction. The child's head immediately descended into the pelvis. The woman being supposed weak, the delivery was finished by the forceps. Both mother and child did well. Another case of hernia complicated with parturition, replete with interest and instruction, is recorded by Dr. Smellie, case 5, no. 2, col. 11. It occurred in the doctor's practice in the year 1746. It was an example of a hernia on the left side of the perineum and anus, and had existed about two years before Dr. Smellie was consulted upon it. It having originally presented itself in about a month after the patient's first confinement, it was by her imputed to violence presumed to have been used by the midwife who had attended her on that occasion. The swelling had acquired a considerable volume. Whilst lying in bed, the patient could gradually, by the introduction of two of her fingers into the vagina, effect its

reduction. When, however, she got up to engage in the duties of her household, it immediately prolapsed, and remained in that state until again reduced.

In about nine months after the first appearance of the tumour, its subject became pregnant; and whilst in that situation was seized with violent cough; which forced down the intestine so much as to increase the swelling to the size of a man's fist. In consequence of the augmented volume of the tumour thus induced, she found greater difficulty in reducing it; although from the pain occasioned by the pressure of the uterus, its reduction became more imperiously necessary. About five weeks before the full period of gestation, the tumour had acquired so large a volume that she could not reduce it at all. For several days she endured very great pain. Having been an out-patient of St. George's Hospital, she was recommended by Dr. Ross, a physician of that establishment, to the special care of Dr. Smellie. During the first visit paid to her by the Doctor, he found her in great agony: the part which was the subject of the intumescence "was livid, and all round the edge of the swelling was of a fiery red colour. She lay on her side: and when turned upon her back, for the convenience of examining the tumour, it broke in the middle, where the skin was thin, and where there was a slight fluctuation underneath. From the opening, which was small, there issued about a spoonful of pus mixed with blood; and immediately after that discharge, a thin fluid of a greyish colour, to the quantity of half a pint. This rupture no sooner happened than the patient exclaimed that the intestine was gone up, and that she was perfectly free from the pain which the moment before had been so violent. We were very much alarmed at what had happened, because the fluid which had followed the purulent discharge, and which still continued to flow in a small quantity, appeared to be the contents of the ileum, part of which we therefore concluded must be mortified." The patient being costive, the colon was emptied by a clyster; a pledget was applied to the aperture; and soup made of lean mutton or beef was ordered as the only sustenance. Contrary to the expectation of her medical attendants, the subject of this case went to the full period of gestation, and was delivered by Mr. Tomkins, a pupil of Dr. Smellie. Some months subsequently to her confinement she waited on her physician, when Dr. Smellie states he found "that the tumour had kept up." The ruptured part of it presented an appearance of firmness; although in the centre, there was still a small orifice through which a little ichor continued to ooze. Dr. Smellie imagined that the inflamed intestine had adhered to the neighbouring viscera after the mortified sloughs had been thrown off. The patient was frequently troubled with violent pains and a great sense of weakness in the side of the abdomen corresponding with the hernia; as if the gut had become so contracted as to interfere with the easy passage of the ingesta.

In about five months after her recovery, the rupture unfortunately re-appeared, in consequence of the patient overstraining herself. Equally unfortunately she soon afterwards became pregnant again. Her tumour was in the

course of her gestation reduced by one of Dr. Smellie's pupils ; by whom also she was safely delivered at the fulness of her period of pregnancy. She afterwards sickened of the small-pox and died. It is much to be regretted that we have no report of an inspection of the body after death. The method by which nature had accomplished the repair of the structures through which the intestinal descent had taken place in the first instance, would probably have been apparent had such inspection been performed.

ENTERO-VAGINAL HERNIA, COMPLICATED WITH SUCCESSIVE PREGNANCIES AND THEIR RESULTS, AS ALSO WITH A SUPPOSED PROLAPSION OF THE BLADDER.—When the mutual proximity of the several organs contained within the pelvis is considered and duly estimated, added to the great functional changes which they have to undergo, it will not seem difficult to account for the fact of the occasional occurrence of prolapsions in one cyst of more than one of the organs thus naturally and intimately connected and not unfrequently exposed to the influences of the same causes of morbid displacements. Hence the obvious liability of the female subject to the complication of entero-vaginal hernia with pregnancy, as well as occasionally with hernial displacements of the bladder. One of the most interesting examples of such a complication on record is given by M. Hoin, in his admirable treatise on hernia. *Essai sur les Hernies*, obs. 9. The subject of the case was a shopkeeper's wife at Dijon. For reasons not foreign to the history of the case, that person fell into a mistake on the subject of the date of her fourth gestation, and fancied herself on the eve of her delivery from day to day, for at least two months before she arrived at her full period of gestation. During the interval between the fancied and real period of her gestation, she was frequently the subject of pains in the neighbourhood of the uterus, which she could well distinguish, as being of a character quite different from any which she had experienced during her former pregnancies. When she first made M. Hoin the confidant of her anxieties on the subject, she assured him that she had not had fluor albus nor retention of urine nor constipation. During that interview, she declined an examination per vaginam, although that was the only means, in such a case as her's was, by which her medical attendant could arrive at a proper knowledge of the cause of her pain. When taken in labour at the full period of gestation, M. Hoin, who had assisted her in her former confinements, was requested to give his attendance. On that gentleman's arrival, the labour was not far advanced. Her pains, however, soon became more vigorous, and the foetal head, which was in a good position, began to make its entry into the pelvis. But this engagement of the head in the pelvis had no sooner taken place, than a strong parturient pain was suddenly interrupted, and at once ceased without observing the usual gradation of subsidence. That pain was instantly replaced by another of great violence, but of a different kind. This latter pain caused the patient to utter loud outcries, and to complain of so intense a

colic as she had never experienced before. The head of the child, which of course had not been impacted, seemed to recede during the presence of this extraordinary pain; a circumstance which induced M. Hoin to consider it as foreign to the process in which nature had just engaged, and as possibly resulting from a cause which might prove to be only accidentally connected with it. That cause he soon, indeed, discovered within the vagina. At the distance of some lines from the superior part of the orifice of the uterus, there was to be felt a tumour of about the size of a walnut; which was exceedingly tender to the touch, and which imparted to the finger precisely the same sensation as he had often before experienced on applying his finger to cases of inguinal and crural hernia. Although he felt assured that he had never met with a former instance of a portion of intestine protruding intermediately behind the pubis and the orifice of the uterus, and that he could not recollect having ever read any histories of such cases; nevertheless, the great resemblance of the pain which the patient endured to the characteristic pain of colic, and the situation and the peculiar feel and consistence of the tumour, were circumstances so special and striking, as to induce him at once to recognise in the case under his charge an example of a hernial protrusion of intestine; whilst the accompanying symptoms warranted the inference that the part so protruding was sustaining an alarming degree of compression from the descending head of the child. The vomiting which presented itself among the other symptoms, he valued only as an equivocal indication; inasmuch, indeed, as vomiting is not an unfrequent accompaniment of the safest and most prosperous labours. In a situation so new and perplexing, it first occurred to M. Hoin's mind to push up the child's head, and to attempt the reduction of the tumour before the labour should be terminated. But on further consideration, he felt very doubtful whether it might be possible to keep it in its reduced state during the transit of the child through the pelvis. He moreover observed, that the pains of labour, although they had been suddenly arrested, and that they continued to be cut short all at once, and without the usual gradation of subsidence, nevertheless did not altogether cease; but that they came on alternately with those of the colic, and that they unquestionably promoted the advance of the labour. This latter circumstance induced M. Hoin to advise his patient to use her best efforts to give effect to the expellent class of pains; whilst she yielded as little as she could to the influence of the other. This advice was followed with great courage, and the labour was speedily and happily completed. After the delivery was over, M. Hoin found it an easy duty to effect the reduction of the herniated intestine; and for that time the patient sustained no further inconvenience from it. The following particulars are added to the above history, because explanatory of the occasional cause of the intestinal descent in the first instance. "I was positive," observes M. Hoin, "that the formation of this hernia was subsequent to the immediately preceding confinement; which I had attended professionally, and which had neither been difficult nor laborious. I felt no doubt that the pains which the patient had

endured during the latter months of her pregnancy, were to be attributed to this entérocele; but I was yet ignorant of any cause to which the descent might be imputed. During the period of this attendance, however, I succeeded in obtaining the following particulars of information from the patient and her husband. 1st. That some months antecedently she had sustained a fall, or rather took a leap and alighted on her feet. 2ndly. That on the following day she was the subject of a considerable hæmorrhage, of which the duration did not however exceed half an hour. 3dly. That subsequently to the date of that accident, the husband had occasionally recognised the presence of a small tumour in his wife's vagina. From a due consideration of these circumstances, I felt assured that the hernia had originated from the shock which the patient had suffered during the moment of her accident."

In the sequel of the history we are informed that the intestinal pains returned again in about four-and-twenty hours after the delivery; that they were easily distinguished from those painful contractions of the uterus called after-pains; but that they were not accompanied by vomitings. On instituting an examination per vaginam, M. Hoin found the tumour much less than it was on the preceding day; but that it occupied the same situation. Its locality was exclusively on the right side of the extremity of the vagina, where the patient suffered pain on pressure when applied to the hypogastrium. This local pain was naturally enough ascribed to the proximity of the part to the intestine which had undergone the compression, and was considered as distinctly indicative of the precise situation of the protruding bowel between the uterus and the bladder. On that occasion M. Hoin reduced the herniated intestine with great facility, and was able very sensibly to recognise the gurgling noise which accompanied its retrocession into the abdominal cavity. The colic ceased. On the subsequent day the pains once more returned, and with so much violence that they involved the patient in some danger. The lochia became suppressed; and a fever of considerable intensity supervened, which was attended with much pain in the region of the uterus. The abdomen became distended, and the hypogastrium exceedingly tender to the touch. M. Hoin again instituted an examination per vaginam; but encountered no tumour. Such an assemblage of symptoms, considering all the circumstances of the case, was not of a nature to excite much surprise, nor calculated under proper management to occasion any great alarm as to the ultimate issue of the case. M. Hoin, not perhaps much experienced as to the results of active practice, was however alarmed; and requested a consultation with his friend M. Charendon. In the midst of what is designated a tempest of phlogistic symptoms, these gentlemen had recourse to the employment of fomentations, injections, emollient lavements and antispasmodic juleps. The storm, as may be supposed from the complexion of the practice, only partially subsided for a few hours. It raged, indeed, somewhat less boisterously for several days subsequently. A well-informed English practitioner of the present day, in the same circum-

stances, would have put his patient out of pain and in a state of security in TWENTY MINUTES, by the abstraction of a pound or a pound and a half of blood from the arm, and the application of a dozen leeches to the hypogastrium. Subsequently to that procedure the fomentations, injections, emollient enemata, and the antispasmodic juleps might have been prescribed with the greatest propriety. After, however, enduring the squalls of a somewhat stormy period of three days, the patient is described as having passed the remainder of her confinement in great calmness, and we are told that "the shopkeeper's wife perfectly recovered."

After her recovery from the above confinement, our patient enjoyed a more or less perfect freedom from intestinal pains for about five months; when she became the subject of another pregnancy, and when she began again to be tormented with colics. On one occasion during the progress of this gestation, she perceived a tumour a little way within the vagina, above the arch and on the right side of the symphysis pubis. It exceeded not in volume the size of a pigeon's egg, and it retroceded during the night of the same day. At different periods of her gestation, she was however harassed by a variety of distressing symptoms; of which the most severe were those which concerned the function of micturition. "During her former pregnancy she suffered more pain when she was seated than when she lay down; whereas in this, on the contrary, the pains were more severe when she was in a horizontal position. In order to be able to sleep, she was obliged to have both her head and her body considerably elevated in her bed. She could not succeed in evacuating the contents of her bladder, excepting when she greatly inclined her person forwards, whether, for the convenience of the function, she then assumed a half-sitting or a kneeling position."

At the completion of her proper period of gestation, and after she had for some time endured her ordinary intestinal pains, she began on the morning of the 20th February, 1757, to become slightly cognizant of the accession of UTERINE PAINS; which therefore were superadded to those of which she was before the subject. These premonitory twinges were followed in about two days by the more bearing pains of parturition. The interval, in the meantime, was made available for the exhibition of enemata and aperient medicines; by means of which the bowels were freely evacuated. M. Hoin was requested to give his attendance in the afternoon of the 28th. Notwithstanding some considerable uterine pains which the patient had already suffered, her medical attendant found the orifice of the uterus only very triflingly dilated. He could distinguish nothing that gave him the impression of an unusual swelling or tumour within the vaginal passage. But at the parts where the protrusion had presented itself the preceding year, he discovered that the lightest touch occasioned the patient a sense of acute pain. The colic pains predominating increasingly over the parturient efforts of the uterus, M. Hoin had recourse, during the afternoon of the same day, to bleeding; and also, with the advice of M. Charendon, to aperient enemata and emollient injections into the vagina. The patient in the meantime became the

subject of a new pain, which extended from the right side of the pubis, obliquely across the hypogastrium, to the left renal region. About the same time an inconsiderable swelling, which however was sufficient to be easily distinguished, was felt at the part which had been the locality of the former hernia. At about nine o'clock in the evening the intestinal pains became suddenly extremely violent, and were accompanied with borborigmi, frequent vomiting and cramps of almost the entire limbs. The head of the child, which had made its way somewhat lower down into the pelvis, was believed to be, at that same time, producing a severe pinching pressure of the implicated portion of the intestine against the right ramus of the pubis; and the state of the patient is described as having become truly frightful. Artificial delivery presented itself as a measure of almost indispensable obligation: but to that procedure there presented the objection, that the orifice of the uterus was still but very partially dilated, and that it continued rigid, and therefore not easily dilatable. During this conjuncture, a messenger was despatched to request the assistance of M. Crepey, A MASTER IN SURGERY AT DIJON; who soon arrived accompanied by M. Pinsotte, a gentleman of the same rank in his profession. After deliberating first upon the expediency, and then upon the several modes of delivery which might be proposed to be adopted; it was deemed the best practice, to palliate symptoms as much as possible by soothing measures; to effect a gradual dilatation of the orifice of the uterus by a cautious use of the hand, and ultimately, if it should prove necessary, to finish the labour with the forceps. The reader will observe with some surprise, that the lancet was not resorted to a second time, in a case where it was so important to diminish as much as possible structural rigidities, and to guard by every accessible means against the effects, already present or subsequently to be anticipated, of a high degree of constitutional excitement. It was probably by reason of this omission, that it became eventually necessary to have recourse to the somewhat perilous assistance of the forceps, in circumstances in which, for many obvious reasons, it would have been very desirable to dispense with their use. The case, however, terminated happily both for mother and child.

The remarkable difference of the symptoms of this case as they presented themselves in 1757, and those which occurred during the gestation and parturition of the preceding year, induced M. Hoin to believe that the herniary sac had contracted an adherence with the bladder, in consequence of the inflammation which supervened upon the hernia, on the third day of the confinement, in 1756, at the time during which the intestine suffered the pinching pressure between the head of the child and the pubis, as already reported. To the same cause he is moreover disposed to attribute the necessity, to which the patient was ever afterwards liable, of greatly inclining her person forwards whenever she wanted to expel the contents of her bladder; as also that of maintaining whilst in bed a half-sitting and half-lying position. The muscles of the abdomen being relaxed by this position, allowed the uterus to be more at

ease; whilst in its turn that organ would naturally encroach less upon the bladder than in the absence of such position. It might, moreover, be presumed that the small tumour immediately behind the pubis, more than once observed, and without doubt always at a time when the bladder was more than usually distended, must have depended upon the same cause; to which, moreover, might be ascribed the acute pain in the tract between the pubis and the kidney, which the patient had sustained in February 1757. Our reporter then enters upon a wide field of pathological discussion and criticism, of which the author cannot even afford space for an abridgment.

The shopkeeper's wife, nothing intimidated by the alarming events of her former gestations, again became pregnant in 1759. From the fourth month of that pregnancy her colicky pains were renewed, and she suffered more or less acutely from them. Some bleedings and a suitable regimen sufficed to ward off all serious symptoms until the completion of her full period. We anticipated no little danger, observes the reporter, during her approaching confinement. On the second of December the patient endured her ordinary intestinal pains throughout the day; but about five o'clock in the afternoon those pains suddenly ceased. In an hour afterwards the pains of labour began to declare themselves, and were very active without being at all complicated with those of the intestines, or even with any uncomfortable sensation of the abdomen; by which however she had been exceedingly annoyed during the latter months of her gestation. M. Hoin was sent for at eight o'clock in the evening, when the labour was being nearly terminated. He found the vagina, at the part where the hernia had presented itself on former occasions, in some small degree distended. There was, however, no tumour formed. It was sensible without being nearly so painful to the touch as the patient had often felt it during her gestations. M. Hoin therefore suspected that in proportion as the head of the child had descended, the intestine had been pushed back into the abdomen so as to leave the herniary sac only at the lower part of the parturient passage. He then confidently anticipated that the patient would find herself beyond the reach of those accidents which had occurred during her former confinements. He therefore expressed to her that opinion, intimating however at the same time, that during the moment of the escape of the fatal head, she might have to experience an intestinal pain by reason of the strong compression which the hernial sac would then sustain, and the violent stretching or distention to which the implicated portion of the bowel would be exposed from its inseparable connexion with the sac itself. In less than an hour afterwards the patient was happily delivered. She did sustain the intestinal pain which M. Hoin had predicted she probably would have to endure during the last moments of the labour. It was the last pain however which she had to suffer. Her convalescence was rapid and perfect.

The above history was drawn up seven years after the date of the confinement in 1759. Up to that period the patient had sustained no derangement of

her catamenial function, nor the slightest relapse of her hernia. It is probable that the cure in this case was effected on the same principle and by a similar process as were adopted in the case of Dr. Smellie; the important difference having been, that in M. Hoin's case, the remedial agency was more successfully exerted, and nature's intention more permanently and perfectly accomplished.

OF ENTERO-VAGINAL HERNIA, COMPLICATED WITH PROLAPSIONS BOTH OF THE BLADDER AND OF THE RECTUM.—The reader may recollect that the absence of certain symptoms in the case of the shopkeeper's wife, as it presented itself in the year 1757, which were described by M. Hoin as having formed part of her case in the previous year, were by him imputed to the non-prolapsion of the bladder, during the confinement of the later date. It was, however, even during the former confinement, A MATTER EXCLUSIVELY OF INFERENCE, that the hernial descent had at any time been complicated with prolapsion of the bladder. But that the complication in question has really occurred, is proved in the best way by which pathological facts can be established, namely, by an inspection of the body of a person who had been for many years the subject of it, and who died at one of the public hospitals of Vienna, when under the care of the celebrated De Haen. *Ratio Medendi in Nosocomio Practico*, part i. cap. 7. A woman, thirty-five years of age, had fallen on the ice, whilst her shoulders were laden with a heavy burden. At the moment of the fall, she felt that something had precipitated violently towards her genitals. During four years subsequently, she suffered more or less from the accident. At that period she sustained another fall similar to the former one, which greatly increased her previous sufferings. On that occasion she was cognizant of a certain noise which took place in the abdominal cavity, and at the same time she felt an acute pain which extended from the umbilical region to the external orifice of the vagina. Two small bodies presented themselves at that part, of which one was of the size of a pigeon's egg, and the other something smaller and also softer. A surgeon, after having applied emollients to them for three days, attempted and succeeded in effecting their reduction. Not however adopting the precaution of sustaining them by means of a suitable bandage, they no sooner were reduced than they prolapsed again. No further treatment was had recourse to during the four succeeding years. In the course therefore of that period they acquired a considerable volume. In the sequel of the case, a tumour was found to present itself in front of the vaginal passage above the clitoris. This tumour, different from both the others, was accompanied by retention of urine, inflammation, and suppuration. Upon the opening of the abscess, the retained urine escaped rapidly, and bore along with it a calculus of about the size of a pea. A year and a half after this occurrence, the patient experienced excessive pains at the same part, and another calculus was extracted from it. The latter calculus was scarcely removed, when there appeared at the part whence it had been withdrawn, a small tumour, which bore a resemblance to the bladder

as if reposing upon a portion of cyst. Added to the above assemblage of evils, of which Professor De Haen found it exceedingly difficult to ascertain the precise nature whilst the patient was living and under his care at the hospital, although in the mean time he had recourse to several examinations of the parts affected, she was moreover the subject of a painful descent of the rectum.

On inspection of the body after death, the stomach was observed to have acquired an enormous bulk. The small intestines appeared as if distributed into two principal masses or packets, of which only one was found within the abdominal cavity. The other had prolapsed within a cyst of peritoneum, and contributed, together with it and a corresponding portion of the parietes of the vagina to form the larger tumour adverted to in the above history of the case; which was now become pendulous at the external parts of generation. The uterus, the ovaries, the Fallopian tubes with their fringed terminations, and the round ligaments were in their natural situation. THE BLADDER APPEARED TO BE WANTING. In carrying the finger from the brim of the pelvis downwards immediately within the symphysis of the pubis, it was led into a cyst which was lined with produced peritoneum, but of which the actual situation was become extra-abdominal. This cyst was identified with the constituency of the smaller tumour, which thus after the patient's death was ascertained to have been the bladder in a state of inversion; but which previous to the date of the removal of the second calculus, it is presumed could only have been a herniated protrusion into the vagina either of a part or of the whole of that viscus. It should be here recollected that it was not until AFTER THE REMOVAL OF THE SECOND CALCULUS which, it should be stated, was effected violently and by the patient herself, that any portion of the smaller tumour presented an appearance like that of vesical structure. Each of the ureters was of the size of about half the thickness of a finger. Milk injected into these tubes, was seen to make its escape from between the surfaces of the two tumours, of which a part of the convex surface of the smaller one seemed by long apposition to have imbedded for itself a corresponding cavity in the larger one. The poor patient sunk under her complicated sufferings, after she had been a resident of the public hospital under De Haen's superintendence during a period of one month.

OF ENTERO-PERINEAL HERNIA.—This form of hernia is common to both sexes. In the female, the intestinal protrusion takes its origin from the posterior chamber of the pelvis, and effects its descent between the vagina and the rectum until it reaches the outlet of that cavity, where it produces a swelling common in most cases to a lateral portion of the perineum, and the immediately adjoining part of the labium pudendi of the same side. Richter expresses some surprise that perineal hernia should ever present itself in the female. "One would at least suppose," he says, "that the intestine in descending between the vagina and the rectum should occasion a vaginal hernia before it could arrive at the perineum, and that as soon as it should form a vaginal hernia, it

could have no ulterior tendency." "We might presume at all events," he proceeds, "that perineal hernia could only take place in unmarried women, whose vaginæ unrelaxed by the functions and duties imposed upon them subsequently to marriage, might be competent, by resisting in their own case the intrusion of the descending intestine, to determine its route towards the perineum." Rougemont's French Translation of Richter's Treatise on Hernia, chap. 21, p. 280. But the correctness of this reasoning, as indeed the German professor himself acknowledges, is not supported by experience; it being really the fact that married, and especially pregnant and recently puerperal women are principally if not exclusively the subjects of entero-perineal hernia. The truth of the matter is, that the reasoning in question is not quite sound and conclusive, because it does not take into its estimate the changes of condition produced by pregnancy and its consequences on the structures through which the perineal hernia has to make its way. The structures here more immediately referred to are the sphincter and levatores ani and obturatores interni muscles, powerfully sustained and well connected together by large and strongly-webbed masses of fascial and cellulo-aponeurotic tissue. Camper, Demonstrat. Anatom. Pathologic. lib. 2. tab. 2. fig. 1. Cooper's Hernia, p. 56. Mr. Key's note on the true cause of the infrequency of vaginal hernia. Now in their ordinary circumstances, and in their original condition of natural soundness and firmness of structure, the parts occupied by the several varieties of tissue just named must surely be deemed quite as competent to resist any impulses or pressure calculated to produce hernial protrusions as any of the less protected portions of the vaginal parietes. In point of fact the author knows of no recorded case of a strictly entero-perineal hernia IN AN UNMARRIED FEMALE SUBJECT, The changes produced in the condition of the parts concerned by the influences of pregnancy and parturition would indeed appear to be all but absolutely necessary to the existence of the intestinal prolapsion in question. Of the nature and extent of these changes and of their particular bearing on the present subject, we may form a pretty correct notion from the following statement of Sir Astley Cooper: "But for the oblique position of the pelvis, this" entero-vaginal hernia "must be a very frequent disease: for upon passing my finger in the dead body from behind the uterus, within the cavity of the pelvis, in women who have died a few weeks after delivery, I have found that I could thrust the reflexion of the peritoneum between the uterus and rectum READILY DOWN TO THE PERINEUM." Cooper's Hernia, p. 56.

The treatment of this variety of hernia is to be conducted upon precisely the same principles as that of entero-vaginal hernia. The first indication is of course to effect the reduction of the protruded intestine and its cyst by the taxis; and if necessary, by reason of strangulation or of other serious symptoms, by an operation. The extreme importance of a correct diagnosis in cases of perineal swellings, when considered objects of operative surgery, is strikingly illustrated in a letter on the dissection of a perineal hernia of the bladder,

written by a late eminent pathologist, Mr. Allan Burns, of Glasgow, to Sir Astley Cooper, and published in the Second Edition, p. 64 and 65, of the latter gentleman's celebrated work upon hernia. That important dissection will, indeed, be made the subject of a more particular reference at a future page.

After the reduction of the herniated intestine and its cyst shall have been duly effected, the second indication of treatment will consist in the application by means of a well adapted pessary of such a firm and equable pressure to the entire tract of the descent, as shall not fail to prevent its subsequent prolapsion.

In cases of descents of the uterus during pregnancy, the reader may be aware of its being a common practice to dispense with the use of pessaries at advanced periods of gestation. In a case however of vaginal or perineal hernia, the use of the pessary would be then more peremptorily indicated than at any other time; its mechanism should therefore be such as to ensure its being worn both easily and efficiently during every stage of the pregnancy. To attain that object, it might be useful, or even quite necessary, to be furnished with pessaries of different dimensions, especially as to depth, and of different forms for the different stages and other incidents of gestation. The rule of practice should be, that no part of the tract of a reduced intestinal descent should be left at any period of gestation subsequently to such reduction, without the most efficient mechanical support that can be made applicable to it. On the accession of labour it will of course become necessary to remove the pessary; a duty which in most cases will devolve on the party previously employed to introduce it. Its removal should therefore never be attempted before the arrival of that gentleman, or rather of the gentleman whoever he might be, actually engaged to attend the patient during her confinement; nor even by him until he was quite prepared, and required to give the case the benefit of his immediate personal services. For no sooner should the pessary be removed, than it would become the duty of the practitioner to introduce the greater part, and in most cases the whole of his hand into the pelvis, for the purpose of keeping up above the brim of that cavity every fibre, if possible, of the intestine which had before protruded, until the more bulky part of the child's head should effect its transit beyond the seat of the hernial aperture. Should this important duty be neglected, prove impracticable, or be imperfectly performed, or by reason of other special influences productive of dangerous impediments to the labour, whether founded upon form of pelvis, condition of the orifice of the uterus, or upon great languor and inertia of the parturient principle, it may become a matter of the most imperious necessity, even in the course of a very few hours after the declaration of labour, to effect the delivery artificially. See Mr. Stubbs' case already quoted at p. 176. In a severe case of parturition complicated with an irreducible herniated prolapsion of intestine, whether already in a state of actual strangulation, or only likely to become exposed to dangerous pressure and contusion, it is obvious that the head of the child should not be allowed to remain long arrested, though it might not at the same time be im-

pacted in the parturient passage. In the event of the birth of the child being accomplished without the previous reduction of the hernia, the practitioner will of course see the propriety of effecting its reduction as soon afterwards as possible. Immediately upon the expulsion of the child, he should therefore introduce his hand into the vagina; in the first place to guard against an increase of the existing evil, and then to be in readiness for the safe and expeditious removal of the placenta, which not very improbably, in the peculiar circumstances of the case, might be required to be removed in the course of not many seconds after the expulsion of the child. It deserves to be remarked that in cases of labour complicated with hernia, hæmorrhage from the uterus may always more or less be to be apprehended. That danger effectually repelled, or the hæmorrhage itself subdued by the induction of a powerful contraction of the womb to expel the placenta, and subsequently by the adoption of proper measures to ensure the permanence of its contracted state, the medical attendant will find himself at liberty to renew his attempts to effect the reduction of the herniated intestine. In the altered circumstances of the case, he will then probably succeed speedily and without difficulty in accomplishing what before he had for a long time vainly endeavoured to achieve. When the hernia, including its peritoneal cyst, shall have been perfectly reduced, a pessary of sufficient magnitude should be forthwith passed up into the vagina, and well adjusted to the source and to the tract generally of the recently protruded intestine. A pessary, to be easily managed and admitting of efficient adjustment and of frequently repeated adaptation to the functional and pathological incidents of the puerperal state, should be soft, absorbent, and elastic. The material which is known to possess these properties most perfectly is sponge; and in the peculiar circumstances of the case under consideration, no other than a pessary made with that substance could be well expected to be tolerated. A large piece of delicately textured sponge should therefore be selected and cut down to the form deemed best adapted to the more essential and immediate purposes required to be answered by it. There should of course be several pessaries of this material provided, in order to supply daily or even more frequent changes of them during the earlier period of the puerperal state. The changes in question, it is obvious, should be made by the medical attendant himself. During the first twelve hours after delivery, he should visit his patient for this purpose at least more than once. The patient in the mean time should be especially instructed as to the duties devolving principally upon herself: among which should be most pointedly and pre-eminently instanced, that of maintaining under all possible circumstances a horizontal position of her person. The author is well aware of the inconveniences which might be expected to result from the rigorous observance of this rule. Observed however it must be, at any expense of mere trouble and inconvenience, whether to the patient herself or to her nursing attendants. The interests involved in its observance are of so important a nature as to be worthy of the greatest sacrifices. Rather than

compromise the advantages for the attainment of a radical cure which the puerperal state might afford, and which the analogy of the results of treatment as applied to uterine prolapsions under the same circumstances, would seem to encourage us to hope it really would afford, it would be obviously worth the patient's while to submit to almost any temporary annoyances and privations. After an unremitted use of the sponge tents, for about three weeks or a month, when the uterus might be expected to have recovered its naturally unimpregnated size, the practitioner might possibly with some advantage to the more permanent interests of his patient, determine his attention to any probably useful changes which might then be made in the form, mode of action, or material of his pessaries. The subject generally of pessaries will be treated at greater length hereafter.

The principle on which it is proposed to found the attempt of effecting a radical cure of vaginal and perineal hernia, including also one variety of enlargement of a labium pudendi from the same cause, by means of pessaries TO BE SPECIALLY APPLIED AND USED DURING THE PUERPERAL STATE, is the known disposition of the parts concerned, to exert at that period a greater degree of self-adjusting and of tone and strength restoring power than at any other time. See Cooper's work on Hernia, p. 54. But for the credit of our art, and for the purpose of ensuring something of a substantial prospect of success to our endeavours, it seems quite reasonable to suggest, that the attempt should only be made with a distinct understanding on the part of the patient, OF HER PERFECT WILLINGNESS AND ENGAGEMENT to maintain inflexibly a horizontal position during a period of at least six or eight weeks subsequently to her confinement.

The best and most unquestionable examples of perineal hernia which are recorded, are those already referred to in the practice of Dr. Smellie. The remarkable case of the young woman, a patient of Sir Astley Cooper's at Guy's Hospital, who laboured under the symptoms of a strangulated hernia, was an example of a peculiar variety of protrusion of the intestine into a posterior portion of one of the labia pudendi. That case, being a singular one, there having been no other yet recorded precisely like it, it seems proper that the reader should be more particularly apprised of it. "A young woman, aged twenty-two, laboured under the symptoms of a strangulated hernia. A swelling, equal in size to a pigeon's egg, occupied the left labium. It had frequently descended during the last six months; but the patient could reduce it herself with little effort and pain. The tumour was situated below the middle of the labium; the upper part of which and the abdominal ring were perfectly free from tumefaction. It could be traced along the side of the vagina nearly as high as the os uteri. An impulse was felt on coughing. 'I then,' says Sir Astley, 'grasped the swelling, and, pressing on it with some little force, which, however, gave the patient a great deal of pain, in about three minutes it went up with a gurgling noise, and she became easy. The labium then felt flaccid, as if a tumour had been taken from it; and when the finger was placed in this flaccid

and hollow portion of skin, it could be forced back into a circular orifice on the inner side of the branch of the ischium, and between it and the vagina. The only method she has since used to keep the hernia up is to wear a common female bandage between the thighs and fixed round the abdomen.’”

It seems, to the author, more than probable that Papen's case of a supposed rupture by the ischiatic notch, published in the third volume of Haller's *Disputationes Chirurgicæ*, was, in fact, an example of vagino-perineal hernia. At all events, the case itself, as succinctly reported by Mr. Lawrence, will be read with interest. “A woman, at the age of forty, perceived, near the right side of the anus, a small tumour, which gradually increased into an immense pendulous bag, hanging down to the knee. She was obliged to lie on the left side, to suspend the tumour from the back when at work, and to elevate and compress it, in order to promote the evacuation of the fæces. Frequent borbrygmi were heard in the part. It seems that this great infirmity did not materially affect the patient's health, nor prevent her from following laborious occupations, as she died suddenly while employed at harvest-work, her person at the time being very corpulent. The swelling resembled an oblong flask, narrowest towards the anus, and increasing below. Its length was an ell, and the circumference of the lower part, half an ell. It formed a cavity lined with peritoneum, which contained all the small intestines, with some of the larger ones, and likewise a part of the omentum. The course of the stomach described a perpendicular line, and the pylorus was at the entrance of the sac within the pelvis. ‘The opening,’ observes Mr. Lawrence, ‘at which the parts protruded is by no means clearly described. The circumstance of the swelling having been perceptible when small, that of its situation near the anus, and its increase to so great a bulk, make me doubt whether the parts had passed out at the sacro-sciatic foramen.’” Lawrence's *Treatise on Ruptures*, chap. 24, p. 559. In a note, in the same page, Mr. Lawrence states a similar doubt as to the true character of a case cursorily reported by Lassus, and considered by him to have been an ischiatic hernia. “The tumour was of the size of a fist; had not been attended with any troublesome symptoms; and was cured by trusses and lying in bed two months.” *Pathologie Chirurgicale*, tom. 2, p. 103. That hernial protrusions of the intestines have, however, made their way in females by the rout of the ischiatic foramen, so as to form tumours, which have occupied the precise locality of the swellings under present consideration, no reasonable doubt can be entertained. In a note to an important paper on hernia of the bladder, published by M. Verdier, in the *Memoirs of the Royal Academy of Surgery*, vol. ii. p. 2, a reference is made to a case of this kind which, a short time previously, had been made the subject of a communication from England to the celebrated Haller. A countrywoman, aged fifty, had, for a long time, been the subject of a tumour which extended from the anus to the calf of the leg. It was observed, on inspection after death, that the constituents of this prodigious tumour were no other than hernial protrusions of part of the omentum,

the jejunum and ileum, with their accompanying mesentery; including also the cæcum, an inferior part of the colon, and a portion of the rectum. These several structures had made their escape from the abdominal cavity by the rout of the pelvis, and through one of the notched intervals between the sacro-ischiatic ligaments. The stomach occupied the middle of the abdomen, and was situated relatively to the abdominal cavity longitudinally. The duodenum was so low as to have approached to the orifice of the hernial sac. *Magazin Francois*, Septembre, 1750. M. Verdier, in the same article, makes the following declaration: "M. Bertrandi, member of the College of Surgeons in the University of Turin, has reported to me that he has seen, in two subjects, an example of hernial protrusion of intestine by the ischiatic aperture. In each case the descent had taken place on the right side, and the ileum exclusively was the portion of intestine which had formed the prolapsion."

OF HERNIA OF THE BLADDER. HERNIA CYSTICA. HERNIA VESICÆ URINARIÆ. CYSTOCELE.—Hernial protrusions of the bladder have not often presented themselves to the observation of practical surgeons; and when not complicated by prolapsions of other viscera, they have seldom involved consequences of any serious importance. Of this species of rupture there are at least four distinct localities, which have accordingly given, to as many varieties of the disease, the several designations of inguinal, crural, vaginal, and perineal hernia of the bladder. Among these different forms of vesical protrusions, the crural is that which has presented itself most frequently in the female subject: but, inasmuch as both it and its immediate neighbour the inguinal variety of the disease, do not necessarily involve in their pathological history any morbid condition of the internal genitals, the reader will no doubt see, in common with the author, that, compatibly with the order laid down for the consecution of our subjects, their further consideration cannot be undertaken under our present head of inquiry. From the immediate and mutual contiguity of the vagina and bladder, it is a fact of constant occurrence, that when the bladder is in a state of distension, it forms a tumour into the vagina. But this intumescence arises simply from the general and equable yielding of the entire parietes of the vagina adherent to the bladder to the pressure made upon it by the mass of fluid allowed to accumulate in that organ. The tumour thus formed may be easily felt by examination per vaginam. But an intumescence of that kind cannot be identified with a hernial condition of the bladder. No protrusion takes place, and no injury on the part of either organ is sustained. The term hernia, as applied to an encroachment of the bladder upon the vaginal passage, is only properly used when it is made to express a forcible protrusion, or effectual insinuation, however produced, of a part of the bladder into that passage, through a corresponding portion of the actual substance of the party-wall between the two organs. It is generally supposed that, at the part which thus forms the precise locality of the protrusion, there is a separation of the fibres, a sort of solution

of continuity of the mixed structure which forms the external coating of the vagina. In this way a kind of hernial ring is presumed to be formed. The corresponding portion of the bladder insinuates itself at this ring, and comes into immediate contact with the internal or rugose tunic of the vagina. But the character of this latter structure is such as especially to qualify it for yielding indefinitely in all directions. In consequence of this property it readily expands before the pressure applied to it by the vesical tumour, and necessarily becomes its external coating. Hernia of the bladder has usually the anterior part of the vagina for its locality. The tumour is of larger or smaller volume in proportion to the extent of the vesical protrusion, and to the quantity of fluid by which the entire bladder may happen to be distended. The voluntary evacuation of the bladder does not effect a discharge of all the contents of the tumour, though it does produce a more or less perceptible reduction both of its tension and bulk. Pressure applied to it excites the desire of voiding the contents of the bladder; and, when made more firmly, it, in most cases, but not in all, forces a small quantity of urine to escape by the urethra. It is said sometimes to produce considerable pain both of the bladder itself and also of the iliac and lumbar regions, in the direction especially of the ureters. In the only case of a vaginal hernia of this kind in which the author has been professionally concerned, no ordinary amount of pressure occasioned the slightest inconvenience.

A cystic hernia of the vagina, when of considerable bulk, may be readily distinguished from an intestinal hernia of the same part by a more or less distinct fluctuation of the former, contrasted with the usual elasticity, and also by the occasional crepitus of the latter. This test is less applicable, and scarcely in any degree useful, when the tumour is small. A catheter, introduced by the urethra into the bladder, may, in some cases, be distinctly felt by a finger applied to the root or ring of the tumour. Cystico-vaginal hernia is a much less frequent variety than either the crural or inguinal form of the disease. Of this fact the reason would seem to be, that the parietes of the vagina are more secure against the shocks and various disturbances incident to the contents of the abdominal cavity than either of the other parts, where protrusions of the bladder have usually presented themselves. The figure of the tumour in the case seen by the author was oviform. In another case it has been described as pyriform. Its more ordinary volume is that of a duck's egg. Sandifort, however, states, that he met with a case of it the size of which was equal to that of a man's head. This form of hernia occurs more frequently in married and child-bearing women, than in children, or in virgins of any age; although one example at least may be quoted of its having taken place under the opposite circumstances; viz. that reported by Sandifort, *Observat. Anatomic.* p. 55: a case which its reporter states to have been the effect, suddenly produced, of a violent fit of coughing, the patient at the time being the subject of hooping cough. If we consider, for a moment, the relationship mutually subsisting

between the bladder and the vagina, we may easily comprehend how a rupture of the external tunic of the latter might be effected during a fit of coughing. The compression sustained by the abdominal viscera during the convulsive action of the diaphragm, and the numerous other muscles acting in tempestuous sympathy with it in the whooping-cough, is indeed extreme. During the more intense struggles of the paroxysm, it is a matter of frequent experience, that, in young children, females especially, the contents both of the rectum and bladder are suddenly and irresistibly evacuated. The sphincter of the bladder acts however ordinarily in resistance to this result. Let, then, that organ be supposed subject, as it actually is, to various degrees of plenitude, and in all of them more or less frequently exposed, for many successive weeks or months, to the severe impulses and forcible packing against contiguous tissues incident to the actions of the disease, and it will not appear surprising, that its frequent and violent encroachments upon what might be correctly enough designated its weaker half, for the anterior portion of the walling of the vagina and the corresponding posterior portion of the neck of the bladder, are parties to the formation of a common structure, the cystico-vaginal septum, it will not appear surprising that such violent and frequently repeated encroachments of the bladder should have the effect eventually of causing much serious injury even to the structure of the portion of vagina thus unavoidably implicated in its movements. Its tone becoming daily more and more impaired by an increasing extension of the part most exposed to the encroachments of its adjoining tissue, its investing and less extensible fibres at length give way, and a solution of continuity, amounting in fact to a palpable fissure, or hernial ring, is ultimately formed. On the advent of the next paroxysm of the cough, the bladder, containing probably but a very moderate quantity of urine, and now in consequence of the impaired tone and injured structure of the parts, become more predisposed to be determined in the direction of the injury than in any other, effects its protrusion through the fissured aperture already half opened and all but completed for its passage.

A condition of the parts not very dissimilar to the one now described is produced by the successive changes incident to the pregnant and puerperal states. During the latter months of gestation, the bladder it is well known is not unfrequently exposed to severe pressure from the gravid uterus. If we suppose such a state of things to be complicated with a more than ordinary amplitude of the pelvis, the effect of the pressure in question would of necessity be more determined in the direction of the vagina than in that either of the abdominal ring or of the crural arch; and the subsequent hernia of the bladder, should the struggles of the expected labour, or any other accidental event or circumstance which might occur, prove sufficient to produce such an effect, would furnish an example of the special variety of vesical protrusion under present discussion. In illustration of these remarks, one of the earliest recorded cases of vaginal cystocele may be here not inaptly cited. It occurred in the practice of

M. Chaussier, and was first published by Hoin in Le Blanc's *Précis d'Operations de Chirurgie*, tom. ii. p. 368. "In the month of March 1748, a woman of about thirty years of age, of a strong constitution, and very active habits, was happily delivered in the country, where she resided. Her convalescence proceeded very satisfactorily till the seventh day subsequently to her delivery. On that day unfortunately, whilst passing from one chamber into another, she encountered a pail of water, of which she effected the movement from one place to another, with great vivacity, and with a considerable effort. During the instant of the exertion, she felt in the parts within and at the outlet of the pelvis so violent a pain, that she fell into a syncope, and remained in it for a quarter of an hour. When she recovered her recollection, she perceived that her vagina was become occupied by a tumour of considerable size, accompanied by acute pains which extended from thence upwards as far as the navel. The surgeon of the neighbourhood, who had attended the patient during her confinement, was sent for. That individual mistook the tumour for the head of another child. The pains were successive; which this same gentleman therefore considered as so many indications of a new labour. Little accustomed no doubt to leave nature to herself, in circumstances where he believed his interference might be essentially useful in aiding her operations, he determined to impose upon himself that service: and he was not inactive in its performance. With the intention of facilitating the passage of the pretended fœtal head, he made use of many inconsiderate manœuvres, using his hand relatively to the tumour which he felt was increasing in volume, in perfect consistence with his own self-sufficient opinion of the case. The gradually augmenting size of the tumour only served to blind his intellectual vision still more. He found, as he believed, the fœtal head to be of prodigious size; spoke of the employment of instruments; seemed desirous of establishing their necessity, and went to fetch them, after having avowed his intention of using them to open the child's head. On his return, however, he was engaged to suspend his intention until M. Chaussier who was by that time expected should arrive. That eminent physician saw the patient on the third day after the accident; which was the ninth day after the delivery. He found the tumour of a size truly prodigious, its volume being equal to that of a hat block. Its surface was exceedingly smooth, and it protruded from the vagina about two inches and a half. The fluctuation of a fluid in it was most distinctly perceptible. The patient had much fever. Her mouth was parched; her countenance was greatly altered; she was exceedingly hot: but what she complained of as most intolerable, were acute pains which she referred to her loins, and especially to the regions of the kidney; which extorted from her incessant complaints and made her resist the slightest movements of her body. She informed M. Chaussier, that before the moment of the effort which had been the cause of her malady, she had a pressing call to evacuate the contents of her bladder; which, however, she had not been able to satisfy: that since that time, and for sixty hours subsequently, she had been harassed by the same pressing desire, but

that her attempts had been throughout equally useless. The physician applied his hand to the hypogastrium. He sought not, nor did he find there the usual globular body formed by the uterus of a woman recently delivered; for the delivery had taken place nine days before; nor did he expect to encounter an uterus in a state of gravidity, at the full period of gestation; since he had already discovered that the tumour with which the vagina was charged was not the head of a child. But so far from being able to recognise an immense swelling of the hypogastrium, which the bladder containing urine secreted during three entire days must have produced, had it been there situated, he felt in that region an empty unoccupied space. By all these indications, he felt no doubt that the tumour within the vagina was a hernia of the bladder, and that the pains in the regions of the kidneys, were to be referred to intense distension of the ureters. He caused the patient to be put in a position which should place her head very low, and her breech and thighs correspondingly high. After applying oily embrocations and other unguents to the hypogastrium, and also to the surface of the swelling, he compressed the tumour and by certain humouring movements of it in the required direction, attempted to effect its reduction. These measures were, however, not successful. The embrocations were renewed: and after a very short delay, M. Chaussier had again recourse to the taxis, and applied it precisely in the same way and on the same principles as when used in cases of intestinal hernia. He recognised during the pressure of the finger an undulation of fluid which felt to be propagated from the outside of the tumour to the interior of the vagina. The efforts of the taxis were continued; the tumour gradually diminished in size, and at the moment of its retrocession into its natural situation in the hypogastric cavity, it made a noise sufficient to be overheard by all the persons who were in the room. As soon as the bladder and the portion of vagina which formed its cyst or covering were reduced, the lochia previously impeded by the voluminous body with which the vagina had been charged, flowed again in great abundance. After some difficulty and loss of time, the bladder was evacuated of its entire contents, amounting to about three pounds of urine, BY MEANS OF A WAXED BOUGIE. The patient speedily and perfectly recovered."

The intelligent reader will observe that the above case was not a little mismanaged as to one point even by M. Chaussier. The catheter should have been introduced before any attempt was made to effect the reduction of the herniated bladder. The pressure applied to it, to have been sufficient to accomplish that object in its state of extreme distention, must not only have been exquisitely painful to the sufferer, but moreover, in some degree at least, dangerous even to the texture of the bladder itself. The short explanation of a practice so rude and bungling, is the simple fact, that neither of the gentlemen in attendance was supplied with a catheter; although nothing is said as to the procedure proper to have been adopted, and which probably would have been adopted, had the catheter not been wanting. In a common case of reten-

tion of urine in the female, a goose quill may be converted into an excellent substitute for a catheter. In a case of retention consequent upon a difficult labour, in which the vectis had been employed to finish it, both the author and the gentleman who had previously attended the patient found themselves without a catheter. They both resided in the same town, and at a distance at least of four miles and a half from the lady's residence. A bunch of uncut quills which had been gathered on a neighbouring common was produced. One of the finest and longest barreled was selected from amongst the rest, and perforated at its naturally rounded termination, with one of the blunt ends, for both ends the reader will recollect are blunt, of a stocking knitting needle. Another aperture was made at the stalk end of the barrel, by notching a small section out of it. The instrument was thus completed, and the author's much valued friend, the late Mr. Overend of Sheffield, forthwith applied it with perfect facility and efficiency. In the case just narrated of M. Chaussier's, it would seem probable that the greater part of the bladder, which already was in a state of some distension, had become herniated in the manner described; and that after it had made its transit through the ring or fissure in the external tunic of the vagina, it got gradually more and more distended, until it acquired the enormous volume it is represented to have attained. Such a displacement might possibly, in some degree, have diverted the course of the urethra: but inasmuch as its change of position must have been very inconsiderable, and the whole of that passage is but of moderate length, the emptying of the bladder anteriorly to its reduction, could not have been attended, one would suppose, with any serious amount of difficulty by means almost of any sort of pessary. A quill pessary made on the principle of the Yorkshire one just described, and rendered soft and in some degree flexible by immersion in heated water, would probably have answered every purpose.

The following case of M. Robert, published by M. Verdier in the second volume, p. 33, of the *Memoirs of the French Academy of Surgery*, furnishes an example of the practice proper to be adopted in all cases of a similar description. M. Robert was requested to attend, in her confinement, a woman aged forty years. On making his first examination, he found the orifice of the vagina occupied by a foreign body of a sacculated form, containing fluid. This tumour was not attached to the vagina by all points of its circumference, but only to an anterior portion of its parietes; a circumstance which admitted of the finger being easily passed to the orifice of the uterus. M. Robert learned that the patient had had frequent calls to void the contents of her bladder, accompanied by pains. On further exploration, he came to the conclusion, that the tumour was a herniated protrusion of a part of the bladder distended with urine. He accordingly determined, without delay, to have recourse to the use of his catheter. His first attempt did not, however, quite succeed; but upon applying compression to the tumour, its contents were propelled through the hernial ring or fissure into the unherniated

portion of the bladder, and the catheter in consequence became at once available for the easy and perfect accomplishment of its object. M. Robert was no longer doubtful as to the true nature of the case. The vagina was thus relieved of its painful and encroaching incumbrance, and the labour was speedily and happily accomplished. M. Robert seems to have entertained the opinion, which, however, amounted to nothing more than a conjecture, that the bladder in this case was divided into two compartments. But he founded his conjecture upon no better evidence than the simple fact of the occasional occurrence of such cases. Volch. Cöiter. Exercitat. et Observ. Norimb. 1573. Bauhin. Theatr. Anat. lib. i. p. 195. J. Riolan. Operat. Anat. lib. i. p. 195. Ruysch. Observ. Anat. Chirurg. obs. 8. G. Blassii, Observ. Medic. rarior. obs. 19.

We are indebted to the celebrated Levret for the registry of a case of cystocele which will be considered interesting from the plurality of its protrusions; it being an example at once of crural and vaginal hernia of the bladder in the same person. "I was called," observes that very practical writer, "to a washer-woman of the name of Engrave. She was forty-five years of age, and the mother of many children. Her catamenia had been suppressed for some years. She was afflicted with a dropsy, for which I punctured her three-and-thirty times within eighteen months. This dropsy was probably the result of a great many scirrhus tumours of the viscera of the abdomen; and more especially of those of the lower belly. They soon supervened upon the suppression of the menstrual function. In 1742 a well-characterized crural hernia of the bladder was recognised; and I desired that M. Verdier might be consulted in the case. The patient one day complained of something of a substance in the vagina, which greatly incommoded her; and observed that she could not evacuate the contents of her bladder into the chamber utensil as she had been accustomed to do; and that the stream of urine escaped in an ascending direction instead of a descending direction as formerly, I instituted an examination per vaginam, purposely taking the opportunity of doing so when the bladder was distended. Having introduced my finger into the vagina, I found it entirely occupied by a tumour of nearly the size of one's fist, and presenting a feel of resistance similar to that of a bladder distended with fluid. I applied two fingers of one hand to this tumour, whilst, at the same time, I applied my other hand to the crural hernia. The patient, who was lying on her back, was thus instantly excited or rather mechanically forced, to discharge her urine; which she accordingly did, in an arched ascending stream. In proportion as the bladder was evacuated, the crural tumour was observed to subside; whilst at the same time the vaginal one diminished in volume. The mucous membrane of the vagina became relaxed and in some degree rugose; whereas, before the evacuation of the urine, it was uniformly tender and smooth. I was able, during this opportunity, to ascertain that the base or origin of this tumour was identified with an anterior tract of the parietes of the vagina. Some days subsequently to these proceedings, the patient was transferred to the Hotel Dieu,

where she died in a few hours after her arrival." After lamenting his deep disappointment that his arrangements for securing a post-mortem examination were defeated, M. Levret appends to the above narrative the following note of a similar case: "I have since seen one other example of the disease. The subject of it was Madame B., the widow of a senior surgeon in a company of Swiss guards. It differed from the foregoing case principally in the circumstances following; viz. that the tumour was considerably smaller in volume than the one just described, that it descended much lower, that it gave the impression of less resistance, and that it was almost entirely effaced when the patient was in a horizontal position." When vaginal protrusions of the bladder are of small extent, when they are the probable results rather of an originally delicate conformation of parts than of known injuries from mechanical violence, they may possibly exist without being recognised, or, at all events, without being productive of symptoms of extreme severity. The latter fact may be aptly illustrated by the following case of a patient in Guy's Hospital recorded by Sir Astley Cooper. The subject of it was a girl of seventeen years of age. A tumour presented itself at the inferior part of the vagina, immediately under the meatus urinarius, which had the effect of forcing the vagina through the external orifice. "In passing my finger to ascertain the state of the os uteri," observes Sir Astley, "when I pressed upon this swelling her urine was immediately discharged, and the tumour became flaccid. This induced me to make a more particular examination, and I then found the following circumstances. There appeared a tumour just under the meatus urinarius of a florid red colour projecting the anterior part of the vagina beyond the os externum vaginæ. The tumour was broader than it was deep; being about two inches in breadth and one and a half in depth. I pressed upon it, and the urine immediately flowed from the meatus urinarius. I directed her to discharge her urine, and the swelling became quite flaccid. But on the following day, when the urine had re-accumulated, the tumour was as large as before. Dr. Haighton, who examined her, found the same appearances. She continued some weeks in the hospital; but I could suggest no relief for her complaint."

Dr. John Sims had a lady under his care with a hernia of a similar kind. It projected the anterior part of the vagina, was situated under the meatus urinarius; and when compressed, the urine was discharged by the meatus, and the swelling became flaccid. This disease probably arises from a relaxed state of a portion of the peritoneum, which is reflected from the bladder to the uterus; which allows the bladder to yield to the superincumbent weight of the intestines. Vaginal hernia of the bladder would seem to require the same treatment as vaginal enterocoele; and in recent cases there can be but little doubt that such treatment would prove successful. The first object is to empty the bladder. That will be accomplished with more or less facility or difficulty, according to the degree of the departure of the urethra from its natural course; according to the pressure made upon the neck of the bladder, if any, by the

boundaries of the hernial ring or fissure in the external coat of the vagina; and according to the amount of compression sustained by the same viscus from the gravid uterus, or any other structure or structures, which may enter deeply within the brim of the pelvis. One can scarcely conceive of a case of this kind in which the bladder might not be tolerably easily evacuated by a practitioner accustomed to the duty by means of one or other of the several forms of catheters with which our art is at present supplied. The next indication of treatment is to effect the reduction of the hernia. In the greater number of cases this also might be expected to prove an easy duty. To have it performed however as the case might admit, the patient should be placed in a horizontal position with her head and shoulders low, and the breech somewhat elevated. The reduction is then to be managed by a similar use of the fingers as in cases of entero-vaginal hernia. Our third and last indication will consist in applying a suitable pessary. Sir Astley Cooper does not state what was done in the case of the young woman in Guy's Hospital in compliance with this indication. The continued use of a well-adapted pessary for some time might generally be expected to accomplish a radical cure. The hernia described by Sandifort, *Observ. Anatomic.* p. 55, exhibited a projection of a portion of the vagina at the external orifice, and yet it was eventually cured by the use of a pessary. In common cases, and especially if the results of accidents and when not complicated with existing pressure from the gravid uterus or other structures, the author is of opinion that a sponge pessary of proper form and size would best meet the indication. It would admit of being introduced easily and possibly by the patient herself, and might conveniently be made the conductor of an useful astringent application to the enfeebled or otherwise injured part of the vaginal parietes more immediately concerned in the protrusion. It need scarcely be added, that the observance of a horizontal position for several weeks subsequently to the accident, might prove a most material auxiliary to the other and more direct measures of treatment.

OF PERINEAL CYSTOCELE.—The peculiarity of structure of the perineum and its relative situation to that of the bladder, might appear to make it impossible that it should ever become the seat of a vesical hernia in the female. It is indeed a fact that perineal cystocele has extremely rarely occurred either in the male or in the female. Its possibility however is sufficiently well established by the few and far between examples of it which are recorded. It is stated by Richter, p. 294, that a case of this kind occurred in the practice of Pipelet, which was published in the *Mercure de France* for July 1761. M. Mery has recorded another case of it in the *Memoirs of the French Academy of Sciences* for 1703. He observes that having been consulted by a poor woman, pregnant between five and six months, who complained of great pain in voiding her urine, he discovered between the vulva and the anus, a little to one side, a tumour of a somewhat larger size than that of a hen's egg. On touching it even lightly,

he remarked that some drops of urine escaped from the orifice of the urethra. That circumstance induced him to believe that it was formed by a portion of the bladder forced into that situation by the accidents of pregnancy. It still continued to sustain so much pressure from the gravid uterus as to be a cause of great disturbance to the function of micturition. M. Mery entertained no doubt that this case was an example of perineal hernia of the bladder; inasmuch as the application of pressure caused it entirely to disappear; the patient being enabled by means of that assistance to evacuate the whole contents of the bladder. A case of the same displacement of the bladder, and very similar in its circumstances to M. Mery's, occurred in the practice of M. Curade the elder, an eminent surgeon of Avignon; which may be found inserted without date by M. Verdier in the second volume of the *Memoirs of the Royal Academy of Surgery*, p. 25.

On being consulted by a lady of about 33 years of age, who was advanced six months in her pregnancy, he perceived a tumour in the perineum which occupied it a little more on one side than on the other. Of this swelling the volume became enlarged when the patient sat down, and also when she had been a long time without relieving her bladder. It was covered by an integument which remained unchanged as to its natural appearance and complexion. It was soft and without pain, and it was not difficult to distinguish a fluctuation of its contents. The least pressure caused it to disappear; whilst again it immediately reappeared upon the pressure being removed. When the pressure was indeed very light it produced a desire to void urine: when more firmly applied it caused the escape of a few drops of urine by the urethra. These circumstances duly considered, M. Curade came to the conclusion that the tumour was formed by a protrusion of a part of the bladder; which, in consequence of an inordinate pressure made upon it by the gravid uterus, had forced its way between the rectum and the vagina into its present situation. This hernia disappeared after the patient's confinement, and did not again show itself until towards the latter period of her next gestation. The practice adopted by M. Curade was simple and judicious. After emptying, by the application of pressure, the portion of the bladder which formed the tumour, he caused the part to be sustained by compresses and a suitable bandage. The case of Hartmann, already referred to in p. 141 of the present work, was no doubt an example of perineal hernia of the bladder complicated with the presence of a calculus of large size in the sacculated part. *Ephemerid. Germanic, decad. ii. an. 5, p. 71.*

There is one more case of vesical displacement which, from the very practical nature of the matter which enters into its description, the author feels himself called upon to place before his reader. It is embodied in the history of a dissection of an aged female subject by the late Mr. Allan Burns; of which the facts were communicated in letters to several of the writer's professional friends. The following version is from Mr. Burn's letter, dated Oct. 8, 1808, to Sir Astley Cooper, and published by that gentleman in Mr. Key's edition of

his invaluable work upon hernia. " In the course of the last week, the body of a very old female was brought into the room for dissection. When the abdomen was opened, and the small intestines were removed from the cavity of the pelvis, the urinary bladder was found, when viewed above, to have lost completely its natural ovöid appearance. This viscus lay stretched across the pelvis with its long diameter stretched from side to side in the place of from above to below. In the middle part of the pelvis it was so much depressed as to cause a protrusion of the upper surface of the vagina between the labia pudendi. At the sides it appeared as if pulled out into processes, which were traced descending like horns on each side of the vagina. When we had opened the bladder, it was clearly seen that the protrusion along the side of the vagina had taken place on both sides from that portion of the shoulder of the bladder which is not invested by the peritoneum: consequently in this species of pudendal hernia, there is no peritoneal sac. By passing the finger into the cyst on the right side, I found that it followed the direction of the lateral part of the vagina, and was at last felt lodged in the labium pudendi, very near to the junction of the valva with the perineum. The tumour was of a pyriform figure; but it did not follow precisely the same course on both sides. On the right side the tumour passed into the labium; but on the left it followed the course of the tendon of the obturator muscle, and appeared when the cyst was stuffed with hair like a ball placed beneath the lower part of the vagina and the rectum. On both sides the tumour lay between the levator ani muscle and the obturator internus. When we had ascertained these facts, I sent the pelvis to Dr. Monro, junior, who had a drawing made of the parts; after which he transferred it to Dr. Thomson and Dr. Gordon, who dissected the tumour on the right side as we had done on the left, and found that the protrusion had taken place between the obturator internus muscle and the levator ani. The neck of the cyst was seen closely embraced by the curved membranous origin of the levator ani muscle, which this dissection incontrovertibly proved would have formed the stricture, had incarceration taken place. Even in this subject, where the tumour was still reducible, a very evident narrowing was seen at this part. There is indeed at this point from the tracing back of the bowels on the obturator internus, a natural tendency to strangulation. Here, therefore, a very slight thickening of the protruded viscus would have produced complete incarceration. When we know the seat and cause of stricture in pudendal hernia, we shall be ready to allow that, from the mechanism of the deep-seated chink through which the tumour passes, we may, in performing taxis, press, ad infinitum, on the portion of the cyst lodged in the labium, without tending to reduce the parts. Before we attempt to re-place the cyst, the bladder must be emptied, and by pressure, with one or two fingers in the vagina, we must endeavour, if possible, to empty the tumour also. When we have done this, we are to place the patient in a recumbent posture, desiring her to lie on the side on which the hernia is seated; and then, by regulated pressure upwards and towards the

spine of ileum, with two fingers introduced into the vagina, we are to attempt the reduction of the cyst. In accomplishing this object, we shall be assisted by gently pressing the anus upwards and inclining it to the side on which the disease is placed. This, it is hardly necessary to add, is done with the intention of relaxing the curved origin of the levator ani, which, in this disease, is put on the stretch and forms the stricture. On the left side of the same subject, the protruded part of the bladder passed for some way between the sacro-sciatic ligaments, pushing before it the pudic arteries and nerves. On that side, therefore, there might have been two sources of strangulation; one produced, as on the opposite side, by the fillet of the levator ani; and the other occasioned by the sacro-sciatic ligaments embracing the tumour. At the time Mr. Astley Cooper published his splendid work on hernia, it would appear that he was not acquainted with the existence of the pudendal vesical hernia; all the cases of which he had examined of pudendal hernia on the living subject having been intestinal. Mr. Cooper's remarks, therefore, on the operation, apply only to the latter species of the disease: for he directs the surgeon to open the sac. But in pudendal cystic hernia, as we have already observed, there is no herniary sac. This shows with how much caution surgeons should deliver their sentiments respecting operations, until they shall have had an opportunity of examining, by dissections, the nature of the disease. As in pudendal vesical hernia there is no herniary sac, while in the same species of intestinal hernia there is a sac, it becomes a matter of importance to be able to distinguish the one disease from the other. It requires to be mentioned, that where the bladder is distended, the tumour in cystic hernia becomes prominent; that by discharging the contents of this viscus the cyst is rendered less tense; that by passing the finger along the vagina and placing it on the neck of the tumour, the surgeon can, by slight pressure, empty it of its contents, without perceiving any solid substance returning into the pelvis; and lastly that along with those symptoms there is no disturbance of the intestinal functions. Where these phenomena are present, there are strong grounds for believing that the disease is cystic hernia; in which case, as there is no sac, great care must be taken not to mistake the protruded bladder for a peritoneal sac, and thus to cut into it, in expectation of reaching the gut. When we are to operate on a cystic pudendal hernia, the bladder, as Mr. Cooper very judiciously recommends in intestinal pudendal hernia, must be emptied. When this is done, the surgeon is to make an incision through the integument covering the labium; the incision through the integument being to be made, whether the tumour be seated in the labium or follows the course of the obturator tendon, provided it does not pass between the sacro-sciatic ligaments, as it did on the left side in the present instance. By this incision the protruded viscus is to be exposed to view; and if the hernia be seated on the left side, the fore and mid-fingers of the left hand are to be passed along the vagina. Next a probe-pointed bistouri is to be conducted, by the fore-finger of the left hand, along that side of the tumour next

to the vagina, till it passes beyond the stricturing point, or the ligamento-tendinous origin of the levator ani muscle. When the bistouri is fairly fixed on this spot with its cutting edge looking towards the centre of the pelvis, the surgeon is to turn, to the right side, the vagina and bladder with the fingers he had previously introduced into the former; and while he does this with the left hand, he is, by retracting the right, to cut that portion of the levator muscle with which his knife is in contact. This is the plan which, on the dead subject, I have found most easily executed; but I must observe, that its performance is attended with some risk: for between the protruded and unprotruded portions of the bladder, there is little interposed excepting the thin fillet of the levator ani; and therefore, if the bistouri be carried too far towards the centre of the pelvis, the shoulder of the bladder may be cut. Our chief safety depends on turning this viscus aside by the fingers in the vagina, and by inclining the cutting edge of the knife some little to the front of the pelvis. I have frequently tried that mode of operating on cases of artificial cystic pudendal hernia, and have never injured any part of consequence. But I may add, from a review both of the healthy and morbid parts, that in cystic and in intestinal hernia we shall rarely require to perform dilatation; but shall, for the most part, be able to reduce the parts when we have, by an incision into the labium, brought the tumour more under our control.

The remaining varieties of hernia of the bladder as well as similar protrusions of the omentum, will properly present themselves for consideration either in connexion with prolapsions of the uterus, or as complications with the pregnant and puerperal states. The reader it is feared will think it full time to close the present chapter.

CHAP. V.

OF THE STRUCTURE, FUNCTIONS, AND USES OF THE UNIMPREGNATED UTERUS.

OF THE UNIMPREGNATED WOMB. UTERUS. MATRIX.—The womb is a principal organ of reproduction in the female. In its state of emptiness, it contains a cavity which is small and triangular; but which during pregnancy changes its form and admits of being distended into different degrees of amplitude, sufficient to contain, without inconvenience, one or more children during the several successive stages of gestation. It is said that Galen, when he contemplated the texture of this extraordinary organ for the first time, said that he felt it his duty to sing a hymn to the Gods, in gratitude for having seen a disposition so marvellous: and Swammerdam, many centuries after Galen, gave a description of it under the designation of *MIRACULUM NATURÆ*. As we proceed in the account of the human uterus, a brief sketch of which we propose to give under our present head of subject, it will probably appear that the above strong impressions which some of its peculiar properties have produced upon the susceptible minds of certain physiologists, are neither unnatural nor much exaggerated.

OF THE SITUATION OF THE UTERUS.—The uterus is situated in the small or inferior pelvis, immediately between the bladder and the rectum, having the rectum behind and the bladder in front of it. Above, it is vaulted by the convolutions of the ileum, and below it is attached by continuity of structure to the vagina. It is fixed in its proper situation by its structural connexions with the bladder and the vagina, and by several productions of peritoneum, especially by those prolongations of it which are called the broad and round ligaments. Its connexion with the vagina, of which the texture is exceedingly distensible, and with the bladder which is susceptible of almost unlimited degrees of plenitude and volume, exposes the uterus, even in its unimpregnated state, to considerable and to constant changes of position. Falls, violent efforts to lift heavy weights, any other inordinate exertions of the body, careless conduct during the puerperal state which will be more particularly explained hereafter, accidental injuries of any kind which may tend to impair the strength or soundness of any of its above described connexions, may serve to occasion great and even in some cases distressing changes in the position of the uterus. In the dead body, this organ is occasionally observed to incline on one side in consequence of its ligaments having become



elongated or shortened, or in consequence of its having been exposed to pressure from tumours and morbid enlargements of contiguous organs. The phenomena of gestation and its consequences, it will be hereafter seen, are not unfrequently productive of important influences on the situation of the uterus relatively to the pelvis and its naturally contiguous structures within that cavity.

OF THE FIGURE OF THE UNIMPREGNATED WOMB.—The figure of the virgin and unimpregnated uterus is that of an imperfect triangle, or still more oppositely, that of a pear moderately compressed in its antero-posterior diameter. Prof. Chaussier describes it as a hollow connöid, depressed on its two opposite, anterior and posterior surfaces, rounded at its fundus which forms its superior boundary, and terminated suddenly as if lopped off at its inferior or vagina extremity. The uterus has moreover been compared, as to its figure, to an inverted wine-flask; whence it has indeed derived its usual designation of fundus, for its slightly rounded superior boundary. Its entire length after having been fully developed at the period of puberty is about three inches; its breadth nearly two inches, and its thickness, its anterior and posterior parietes inclusive, something less than an inch. These several dimensions of the uterus are, however, found very greatly to vary in different subjects apparently similarly circumstanced as to age and other physical properties. During infancy and childhood it is proportionally small. It rapidly develops at the age of puberty; and continues to acquire a gradual increase in all its dimensions until its subject shall have duly arrived at the fullest development of her sexual organization and physical attributes. It again diminishes in volume after the cessation of the catamenial functions, and withers into a size comparatively much reduced in advanced old age. After the cessation of its menstrual functions, it occasionally becomes the subject of increased volume from the influence of many serious diseases, to the invasion of which it becomes especially liable at and subsequently to that period. It is greatly enlarged by pregnancy; it again subsides rapidly during the puerperal state; and in three or four weeks after delivery, it usually in a great measure regains the original standard dimensions of its virgin state.

OF THE MORE OBVIOUS APPEARANCES AND PROPERTIES OF THE UTERUS.—The uterus, when considered as to its exterior appearance, is seen to present two principal surfaces, the anterior and posterior, each of which are rounded into a moderate convexity. Of these the anterior looks towards the bladder and the pubis, and the posterior towards the rectum and sacral surface of the pelvis. It is said to have three borders or margins; one superior which bounds the fundus, and two lateral ones. It is also described as having three angles; two superior lateral ones, which are identified with the interior ends of the Fallopian tubes; and one inferior, which marks the imaginary boundary between

the cavity of the body and that of the neck of the womb. Anatomists have given the name of fundus, for a reason already stated, to so much of the superior part of the uterus as is situated superiorly to the uterine apertures or entries into the Fallopian tubes; that of body to the principal and more bulky portion of the organ, which we observed to be situated between the apertures into the Fallopian tubes and the part already indicated, as being identified with the inferior angle of its triangular cavity; and that of neck to so much of it as we find produced below that angle. Its inferior extremity is embraced obliquely by the boundary parietes of the vagina superiorly; into the cylinder of which it might be said to empty itself by a spout-like projection, forming what is called the mouth of the womb. The inferior or vaginal extremity of the uterus is pierced by an aperture, which in the virgin subject is a very small chink or slit; of which the longest diameter is directed from side to side. The whole projection of this vaginal extremity of the organ has been whimsically denominated by some anatomists the *os tincæ*, from its fancied resemblance to the mouth of the tench. In the centre of this projection is the small transverse slit or orifice which forms the actual entry into the interior of the neck of the uterus. By correct writers the entire projection is called the vaginal part or termination, and this central aperture in it exclusively, the vaginal orifice of the uterus. In earliest infancy the length of the uterine orifice is two lines; whilst in a virgin of twenty years of age it does not exceed three. In a woman who has borne children its length is very uncertain, and varies indefinitely between half an inch and three quarters. Moreover, in early age and in its ordinary virgin form this aperture is nearly closed. After the accession of the age of puberty, it is said to acquire a slight degree of patulence; and after the bearing of children it not unfrequently becomes considerably dilated and irregularly pouting and fissured. This same orifice is not situated precisely in the centre of the vaginal part of the uterus, but a little behind it. From this circumstance it might be expected, that in our vaginal examinations, this part being supposed to be in its natural state, we should find the anterior lip of the *os tincæ* proportionally thicker than the other. Such is actually the fact; and it is a fact of no trifling importance in the estimation of an accurate obstetric practitioner.

The portion of the uterus which projects into the vagina presents considerable differences as to its length in different subjects, varying probably from three-eighth to half an inch as to its anterior lip, and between half an inch and three quarters as to its posterior. In women who have borne many children, the vaginal part of the uterus is considerably more bulky and rounded than it is in its virgin state. Sometimes it is found more than ordinarily elongated, projecting perhaps more than an inch and a half from its natural attachment to the superior extremity of the vagina. In some rare cases it is said to have projected to the extent of eight or nine inches without having sustained any alteration of structure. We are indebted to the talented Bichat for the first notice of this

remarkable irregularity. The fact assumed to be established, we might obviously encounter cases of extreme sexual irritations and distress from supposed prolapsions of the womb, whereas the symptoms might be exclusively imputable to the non-morbid elongation of its vaginal portion. The author feels quite certain that he has often met with examples of cases of this description. It is observed by Murat, *Dictionnaire des Sciences Medicales*, tom. xxxi, p. 116, that Prof. Lallement was aware of the existence of a non-morbid elongation of the uterus; but that he considered it as an affection of the whole organ and not exclusively of the vaginal part of its neck, as subsequently demonstrated by Bichat. M. Roux, *Anatomie descriptive par Bichat*, tom. v., p. 282, says, that he had seen an elongation of the part in question, for which an eminent practitioner, under the impression that it was a case of incipient prolapsion, had advised the use of a pessary. Subsequently to the propagation of this somewhat curious fact by Bichat, additional cases have been published in illustration of it by Gardien, Segard, and others, whilst records of analogous examples of it have been industriously sought, and perhaps somewhat too eagerly pointed out to the profession in the writings of Litre, Levret, and Chambon.

On making an incision into the substance of an unimpregnated uterus we may observe a triangular cavity. It is called the cavity of its body, in order to distinguish it from another, which, however, in point of fact is only a prolongation of itself, called the cavity of its neck. The cavity of the neck is scarcely of sufficient dimensions to contain a Windsor bean. It is terminated superiorly and laterally by two minute orifices, which form the uterine apertures into the Fallopian tubes; and inferiorly by another and larger aperture, which has occasionally been rather ambiguously designated the internal orifice of the womb. The cavity of the neck of this organ is in fact a canal or passage, which is continuous from its vaginal orifice to the triangular cavity of its body. This tubular cavity of the neck is unequal in its dimensions at different points; being much narrower at both ends and hollowed out into considerable amplitude in the middle: a form which has procured for it the distinction of having been compared by some anatomists to a rolling-pin and by others to a wine-butt. Its anterior and posterior parietes are said so nearly to approximate as to be all but in a state of actual apposition. It is indeed altogether so narrow, that in the unimpregnated subject it is a matter of no little difficulty to effect the passage through it of an instrument of the size of the interior of a double catheter. On laying it open we may observe on its internal surface a projecting median ridge, which in a great measure must have the effect of distributing it into two equal divisions. From the median ridge in question are determined towards either side, and somewhat obliquely upwards and in nearly parallel directions, a considerable number of inferior ridges, which in connexion with their parent central ridge give to the entire surface the appearance of a peculiar variety of arborescence, whence it has whimsically enough obtained the designation of *arbor vitæ uterina*.

We may also observe throughout the whole extent of the interior surface of cervix of the uterus, and more especially in the neighbourhood of its vaginal orifice, a number of follicular bodies; ascertained to be so many glands, of which the use is to furnish mucus for certain important purposes, incident to the functions of the organ, which will be more particularly adverted to and explained when we shall have to treat of those functions themselves.

OF THE PECULIAR ORGANIZATION OR STRUCTURE OF THE UTERUS.—The several varieties of structure which enter into the composition of the uterus, are a serous membrane, which gives the greater part of it an envelope; a peculiar mixture of tissue usually called parenchymatous, which constitutes the greater part of its substance; and a lining of its cavities and more especially that of its body which is called its mucous membrane. Added to these and numerous distributed into every part of the organ, are blood vessels, lymphatics, and nerves. The peritoneal investment of the uterus being a production from the posterior surface of the bladder is reflected over a superior and anterior portion of the vagina, ascends along the anterior surface of the neck and body of this organ, doubles and gives a covering to its fundus, descends along its posterior surface, to every part of which it gives its external coating, and is then propagated to the rectum and to the posterior and lateral surfaces of the pelvic cavity. This important membrane, which as already observed envelopes the greater part of the uterus, is intimately adherent to its superior boundary or fundus. It is worthy of special remark, that it does not give a covering to the whole of the posterior surface of the bladder; inasmuch as the inferior part of that organ is intimately adherent by cellular membrane common to both, to an anterior portion of the uterus immediately contiguous and corresponding with it. On removing the peritoneal serous membrane, which requires no very difficult dissection to effect, we come at once to the proper tissue of the uterus; which with the exception of its covering just described, and its mucous membrane or lining which remains to be described, constitutes the whole of its substance, and which is of a dense fibrous texture, of a lightish grey colour, of a considerable thickness and numerously supplied with blood vessels. The closeness of its fabric is such as to give it a firmness of resistance almost equal to that of cartilage. Its structural constituency has been described as a homogeneous substance thickly interspersed with vascular and nervous tissues, and admingled according to some with great abundance of irregularly disposed muscular fibres, but in the opinion of others totally destitute of muscular tissue. Towards its shoulders and neck its constituent tissue becomes more densely felted together, and to present something of a lighter complexion than that of the body. At this part also its parietes seem to acquire some small accession of thickness. The internal surface of the uterus is generally supposed to be lined with a tunic of peculiar structure, which accordingly has received the designation of mucous membrane. This lining is, however, so intimately adherent to its parenchy-

matous substance, that it would really appear to be no more than a peculiar variety of propagation from the vascular part of its own tissue. There are, indeed, some physiologists who actually maintain this opinion; whilst it may seem not to be a little countenanced by some striking phenomena, which will be hereafter adverted to, incident to the function of conception and its consequences. In the mean time, we may observe that the internal surface or lining of the uterine cavity is so intimately adherent to its natural bed, the proper parenchyma of the organ, as to appear to be really identified with it: nor is it, indeed, in any degree separable from it, excepting by a tedious process of maceration and dissection. The internal surface of the body of the uterus presents a different character of texture from that of the neck; the former exhibiting the soft and downy appearance of a piece of finely-dressed silk velvet; whilst the latter presents more of the usual character of a muco-cuticular structure, similar to the epithelium of the vulvo-vaginal surfaces. The blood-vessels of the uterus are both numerous and largely developed in comparison of the size of that organ in its unimpregnated state. This predominance is no doubt provisional, and is to be placed to the account of its incomparatively greater demands for arterial blood during gestation than at any other time. Its arteries are derived from two sources, and form two sets or systems of distribution; viz., a superior one, which is derived from the spermatics, and an inferior one, which principally supplies its cervix, but also partially its body, and is derived from the hypogastrics.

The HYPOGASTRIC ARTERIES in the female have the same origin as they have in the male, and follow, during a considerable portion of their tract, the same course of descent, furnishing branches respectively to the kidneys, the peritoneum and the ureters. In the female they are, however, much more tortuous than they are in the male; and instead of effecting their egress out of the abdominal cavity at the inguinal rings, as they do in man, they dip downwards, crossing the edges of the *psoæ* muscles, into the pelvis, and are determined towards the lateral appendages of the womb. Their more considerable branches are distributed on the ovaries, and some smaller ones on the broad and round ligaments, whence their still unexpended ramifications are continued to the sides and body of the uterus; which, with the assistance of some important anatomising branches from the hypogastrics, they supply with a large proportion of its arterial blood.

To redeem in part the pledge given in page 112, on the subject of the circulation of the vagina, and to furnish the reader with the means of obtaining distinct information as to the other and principal source of supply of blood to the genital system of the female, the author has to request attention to a descriptive outline of at least so much of the distribution of the internal iliac artery as he finds to be especially dispensed to the organs within the pelvic cavity. The abdominal aorta sustains at its inferior extremity, and at the distance of about an inch and a half above that part of the brim of the pelvis which is called the

sacro-lumbar promontory, but more frequently in this country the promontory of the sacrum, a bifurcation into two equal branches. These great branches, from the special direction and locality of their respective transits from the loins downwards along the iliac regions, are called the great iliacs, more frequently the common iliacs, and, by some French authors, the primitive iliac arteries. Separating from each other at an acute angle, and more acute in the male than in the female, they descend on either side of the fifth lumbar vertebra as far as the superior part of the sacro-iliac symphysis, where they again in their turn are each divided into two subordinate, but, nevertheless, very large branches, called the external and internal iliacs. Of these the external branch advances in a course very nearly continuous with the line of its common iliac trunk, until it reaches the crural arch, where it makes its exit from the pelvic cavity and assumes the name of femoral artery. But it is to the pelvic division of the common iliac artery that the reader has at present to lend his attention. The internal iliac, which is the most common designation given to it in this country, has likewise very frequently been called the hypogastric artery; sometimes also the posterior iliac, and by Chaussier the pelvic artery. In the foetus, by reason of its being continuous into the umbilical artery, it is of large size, it being nearly of twice the volume of the anterior or external iliac. But in consequence of the important changes which take place in the general circulation of the subject immediately after birth, this predominance of size of one over the other branch of the common iliac artery is gradually reversed. It was ingeniously observed by the late Mr. John Bell, in his *ANATOMY OF THE HUMAN BODY*, vol. ii. p. 437, edit. 3, that "we cannot describe this artery in the adult without attending to its condition and function in the child; for it is to these it is indebted for its peculiar form, and especially for its arch downwards, from the convexity of which all the great branches go off. For in the child the internal iliac or hypogastric artery is extremely large. It first turns down into the pelvis with a large circle; then it goes close by the side of the bladder very low into the pelvis; it then begins to rise again by the side of the bladder out of the pelvis; and going along by the urachus, which is a tube or ligament rather leading upwards from the bottom of the bladder, it goes out by the navel, forming the umbilical artery. Now this sudden turn by the side of the bladder makes the artery convex downwards; i.e., towards the parts which it has to supply. The artery keeps this same form in the adult. In both the child and the adult the great branches come off from the back of this arch."

The branches of this important artery have been variously distributed by authors; whilst, indeed, they are far from being uniformly distributed by Nature herself. Lieutaud. *Essais Anatom.* tom. i. p. 477. Haller *Fascicul.* 4, Götting. 1744. The first division of the internal iliac which we most frequently observe to take place is into two principal branches, each of which again becomes an anterior and a posterior trunk for further subdivisions. A more practical distribution of the several branches of the internal iliacs is that of Mr. John Bell,

into such as remain within the pelvis to be expended upon the organs contained within that cavity, and into such as are only transmitted through the pelvis to be distributed upon parts in its neighbourhood or attaching to its external surfaces. Of the latter class are the glutæal, which is principally distributed upon the glutæi muscles; the ischiatic, the ramifications of which are exceedingly various as to the kinds of structure which they supply; and the obturator, which, after giving out a few inconsiderable twigs within the pelvis, is distributed upon the central muscles of the thigh, upon some of the superficial muscles of the inside of the thigh, and upon the parts constituting and subservient to the movements of the hip joint. This important artery is especially remarkable for its numerous inosculation by anastomosis with branches of other arteries. But it is to the PELVIC BRANCHES of the internal iliac that the reader has to determine his present attention.

The branches of the hypogastric arteries which remain within the pelvis, are the ileo-lumbalis; the lateral arteries of the sacrum; the umbilical, which even in the adult is pervious to the side of the bladder; the vesical; the hemorrhoidal, and the uterine.

The ILEO LUMBALIS, so designated for one reason, perhaps, because of its greatly resembling the lumbar arteries, but principally no doubt on account of its common destination to the loins and to the haunch bones, is usually the first branch which is furnished by the posterior iliac. It takes its origin from the outer side of that artery about an inch below its own bifurcation from the common iliac. Its trunk is very short; for it almost immediately divides into its lumbar and iliac branches. The lumbar branch takes its origin from the posterior iliac directly opposite the base of the sacrum; ascends at once to the loins; gives out many branches to the inferior extremity of the great psoas muscle where it inosculates by numerous anastomoses with corresponding branches of the inferior lumbar arteries. Some of its branches go off in serpentine directions towards the spine where they further communicate with twigs from the lumbar arteries, as also with some of the branches of the spinal arteries. One remarkable branch goes to the iliacus muscle, and is distributed throughout its whole extent. Two or three of its ramules are moreover transmitted to the posterior part of the crest of the ileum.

The LATERAL ARTERIES of the sacrum are generally three or four in number: but they are variable as to their number as well as to their origin and size. They are principally expended upon the bone which gives them their designation; some of their branches being distributed upon its surface, and others penetrating into the interior of its substance. We might indeed characterize at least two varieties of sacral arteries; viz., a median one, and two or more lateral ones. The median sacral artery derives its origin from the descending aorta posteriorly, at or but a very short distance above its bifurcation. Its position relatively to the lateral sacral arteries is that of being nearly central between them. The lateral arteries transmit twigs respectively by its rows of anterior foramina

to the spinal tube of the sacrum, where they inosculate with corresponding branches of the lumbar arteries for their common object of supplying blood to the caudal portion of the spinal marrow. Having reached the inferior part of the sacrum they send branches to the extremity of the rectum and to the neck of the uterus posteriorly.

The UMBILICAL ARTERY, as has been already observed, is of great size and importance in the child; whilst even in the adult its inferior and unclosed portion is often so considerable as by some authors to have been distinguished by its parent's designation of hypogastric. It is at all times pervious to the side of the bladder, and it supplies that organ with two or three ramules which are distributed upon its inferior part, and which there ramifying anastomose with some of the branches of the vesical artery.

The ARTERIES OF THE BLADDER are extremely irregular both in number and size. They are partially supplied by the umbilical artery. The middle hæmorrhoidal, internal pudic, and the obturator arteries furnish others.

The ARTERIES OF THE RECTUM are called hæmorrhoidal. They derive their origin from several different sources. That which is called the superior hæmorrhoidal artery, is a branch of the lower mesenteric which is continued into the pelvis. The middle hæmorrhoidal is usually a branch of the hypogastric; but very frequently in the female it is furnished by the internal pudic. The lower hæmorrhoidal is also almost always a branch from the same source.

The arteries of the uterus, as has been already stated, are derived from two sources. The uppermost, which enters at the superior angles of the womb, is derived from the aorta, and corresponds with the spermatic artery in man. In its rout towards the uterus it dispenses very liberal supplies of arterial blood to the ovaries, and to the broad and round ligaments. The lower artery of the womb usually takes its origin from the hypogastric; but not unfrequently in common with the hæmorrhoidal from the internal pudic. Portal. Anatomie Medicale, tom. iii. p. 308. When the uterine artery takes its origin from the pubic, the trunk of the latter is seen to be of correspondingly large size, and especially developed during pregnancy, and during states of enlargement of the uterus from whatever causes. It is moreover of considerably larger volume, between the age of puberty and the period of cessation of the catamenial function than either before or subsequently to those ages. The internal pudic, whether principal or subordinate, gives out during its course of descent towards the spine of the ischium, a very considerable branch which goes to be distributed upon the superior parietes of the vagina laterally and posteriorly; as also another of nearly equal size to supply an anterior and inferior portion of it, which it traverses to a great extent, meandering within its allotted boundaries so as to form half circles, and constantly inosculating with other arterial branches whether transmitted from its own trunk or from other sources. Some branches of these arteries are likewise determined to the neck of the bladder and the urethra, to the retiform plexus of the vagina, and corpus cavernosum clito-

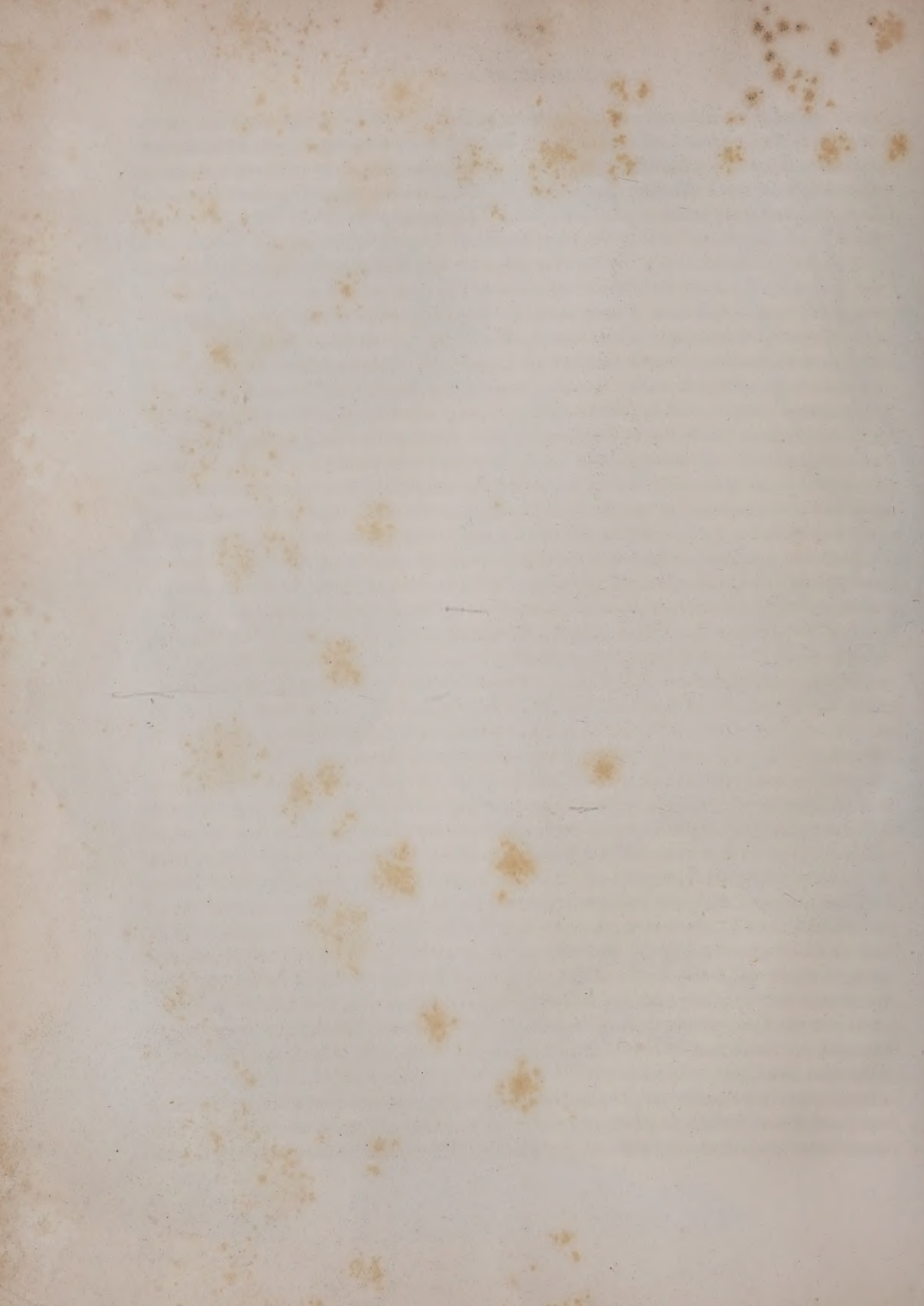
ridis and to the labia pudendi and nymphæ. Of these, the last-mentioned twigs anastomose numerously with branches from the external pudic, epigastric and abdominal subcutaneous arteries.

The uterine artery, after having dispensed its numerous contributions, as already described, at length arrives by a very tortuous course at the neck of the uterus. It there divides into a great number of branches, which penetrate into the proper tissue of the viscus, distribute themselves transversely in flexuous directions over its surfaces, and anastomose at or near the median line, both anteriorly and posteriorly with their respectively counter branches from opposite sides. The remaining trunks of these arteries, for still trunks are left of no trifling magnitude, after having reached the body of the womb, are finally resolved into a great number of branches, which are propagated from the sides of the organ towards the median line of both its anterior and posterior surfaces, as in the case of the cervical branches already adverted to, where like them also they form numerous inosculations with their fellows of opposite sides, as also with many branches from the spermatics. These superior branches of the uterine arteries, it should be observed, anastomose not only with their correlative branches mutually of opposite sides, but also very numerously by inter-inosculations of ramules of the same side, as well as of both sides and opposite surfaces, with corresponding branches of the spermatics. From this most ample supply of the means of arterial circulation in the uterus, its vascular agents at the same time being perhaps more tortuous than the same class of vessels in any other part of the body, with the exception alone of glandular structures, it must obviously follow that the parietes of that organ should in a great degree actually consist of tortuous arteries; and the more tortuous just in proportion as the organ might be least developed. It may be further added, that in proportion as these same arteries are of inferior size, they are by so much the more anfractuons. When small, the current of blood must find its way into them with greater difficulty, and therefore by its momentum prove less competent to effect their development; whereas during pregnancy the case is otherwise; for then the cavity of the uterus being more developed, its arteries must necessarily become less tortuous, and being by consequence less competent to resist the momentum of the streams of blood determined to them, they acquire a proportional increase of diameter; so that ramules scarcely visible in the unimpregnated state of the uterus attain in many cases at an advanced period of gestation a prodigious capacity. But independently of the numerous trunks and branches of the uterine arteries now described, the art of injection has enabled us most readily to discover in the uteri of women who have died during the puerperal state or at advanced periods of pregnancy, the existence of a class of capillary vessels, which have been traced in such abundance as to have presented the appearance of reticulated vascular webs interspersed throughout the substance and interposed especially among the bundles of what many eminent anatomists have supposed to be muscular

tissues of the organ. These capillaries have been observed to become more numerous as they approach nearer to the interior of the viscus, and still more so when they emerge upon its actual cavity: for there they meet together in such immense numbers as to become embodied into the form of a fine and closely-textured vascular membrane. Morgagni *De Sedibus et Causis Morborum*, Epist. 47. Caldani *Instit. Anatom.* part 4, p. 98. Each of the uterine arteries, before they enter deeply into the substance of the uterus, gives out a branch which goes off obliquely towards its adjoining broad ligament, between the two layers of which it insinuates itself, and by many branches anastomoses with correspondent ramifications of the spermatic artery of the same side now become greatly reduced in volume from previous expenditure of several large twigs upon the ovary. Some other branches are indeed transmitted to the ovary from the superior angle of the uterus somewhat anteriorly, both immediately from that part of the organ itself, and intermediately through the circulation of its contiguous round ligament. To these numerous ramifying arterial branches are united many branches from the spermatics, as also divers branches from the trunks of veins in the neighbourhood, forming altogether a vascular expansion having the appearance of an actually cellular tissue. These ultimate branches of the uterine arteries are seen to stretch themselves in all directions on the peritoneal surfaces in the neighbourhood, and not unfrequently to communicate by anastomosis with branches of the external and inferior pudic artery furnished by the crural.

OF THE VEINS OF THE UTERUS.—The veins of the uterus, as is common in other parts of the body, follow generally the course of the arteries. The more minute ramifications of those of the fundus and body are seen to unite as they approach to the lateral boundaries of the organ, in order to form larger branches; whilst branches derived from the anterior parietes meet with corresponding branches from the posterior, which thus uniting form still larger branches. These again in their turn receiving large tributary accessions from the ovaries and from the other lateral appendages of the uterus, become at length so numerous and so strikingly developed as to be able to furnish their full proportion of materials with their corresponding arteries, towards the formation of that beautiful interlacement or plexus of vascular structure, which the reader may see most successfully represented on the left side superiorly of the principal figure in plate xii. The hypogastric veins are formed by the union of numerous branches of veins from the lateral and inferior parts of the uterus, of several considerable branches forwarded to them by anastomosis from corresponding branches of the spermatics and of some smaller ones from the vaginal hæmorrhoidal, vesical and external pudics. All these smaller and more remotely minuter streams, running parallel with ramules and branches of arteries generally of the same names; receiving in their progress, at different stages, constant accessions of smaller to larger tubes; variously coalescing and com-





mingling their contents by numerous anastomoses finally empty themselves into their respective trunks, the internal iliacs. Those again so much larger in the female than in the male, unite their trunks respectively with those of the external iliacs to form the common iliac veins, whence their concurrent floods are conveyed by the ascending vena cava into the heart.

OF THE LYMPHATIC CIRCULATION OF THE FEMALE GENITALS.—Lymphatic vessels, invested by delicate tunics of peritoneum, are seen distributed on all the external surfaces of the uterus. Of these some may be observed to ascend rather tortuously from the neck and shoulder of the organ towards its body and fundus; whilst others are determined somewhat less tortuously in diverse other directions over both its surfaces. Inferiorly they communicate with ascending branches from the vagina, and superiorly with the lymphatics of the ovaries and Fallopian tubes. These organs, as well superficially as within the interior of their tissues, are supplied with lymphatic vessels in great abundance. The lymphatics of the internal genitals, after receiving their innumerable accessions of charges from the visceral contents of the pelvis, ascend from thence towards the central and lateral regions of the abdomen, accompanied by, or seldom at any great distance from the tracts of the sanguiferous vessels. On reaching the third and fourth lumbar vertebræ, they pass under the mesentery, inosculate numerously with branches of lymphatics from the kidneys, and proceed together with them to empty themselves into the thoracic duct. But it is not only the external surfaces of the uterus that are thus abundantly supplied with lymphatic vascular tissue. On the contrary, numerous ramifications of the same order of vessels are found to be propagated to every the minutest portion and variety of its interior structure. Like the smaller ramules of arteries, they are more distinctly traceable in the cases of women who die pregnant or during the puerperal state. In advanced gravidity they may indeed be observed to be so much developed as to equal in diameter the barrels of large crow-quills, and even in some cases those of the smaller specimens of goose-quills. This statement is best confirmed by injections of the lymphatics of the uterus, in the states alluded to, with full charges of quicksilver. The proportional magnitude of the lymphatic system of the gravid uterus to those of other parts of the body, or even to itself in its ordinary state, is scarcely to be credited by persons who have not had opportunities of seeing successfully-injected preparations of it. The delicate radicles of lymphatics, which take their origin from the internal surface of the womb, and of which the office is, no doubt, to absorb a portion of the exhalant secretion of the ultimate arteries of the same part, may be said to initiate from within the proper lymphatic circulation of the womb.

The lymphatic vessels of the vagina communicate with those of the uterus, as well as with those of the external organs of generation; the greater branches of all of them being continuations from those of the interior and superior parts

of each thigh. The well-known fact of a direct communication between the lymphatics of the external genitals and the lymphatic glands in the groins is moreover practically demonstrable by anatomy, as it actually is demonstrated by daily occurring results in pathology. The lymphatics of the uterus may be said to communicate with, and even to form a part of two systems of lymphatic circulations; of which, one is seen to accompany the distribution of the iliac arteries and the other that of the spermatics.

OF THE NERVES OF THE UTERUS.—The nerves of the uterus, which are very numerous, are derived from several different sources; and it is doubtless to the diversity and intermediately extensive relations of these sources of the agents, as probably also of the mysterious proximate principle itself of sensation and motion, that the organ is indebted for its most interesting sympathies, for many of its most striking functional and pathological phenomena, and, unfortunately, for some of its painful affections, of which it is perhaps more frequently and more intensely the subject than any other viscus. The nerves of the womb are derived from the renal plexus, from the inferior mesenterics, from the great intercostals, from the hypogastric, and from the ischiatic plexus. A knowledge, at once accurate and comprehensive, of the several sources and numerous intercommunications of the nerves of the uterus with those of other parts of the body will be found most importantly conducive to the interests of obstetric medicine, by enabling its practitioners to arrive at correct principles on which to found their diagnosis among its multifold diseases, as also between diseases proximately incident to this organ, and diseased affections of contiguous viscera, and often of distant but consenting parts. J. Swammerdam, *Miraculum Naturæ de uteri muliebris fabrica*. Lugd. Batav. 1729. This little work contains several very useful plates, especially of the blood-vessels of the uterus. C. Drelincurt, *de utero*. Lugd. Batav. 1682. A. Nuck, *Adenographia curiosa et uteri fœminei anatome nova*, Lugd. Batav. 1692. F. Ruysch, *Tractat. de musculo in fundo uteri observato, antea a nemine detecto*. Amsteld. 1726. A. Vater, *De musculo novo uteri*. Amsteld. 1727. J. U. Buchwald, *De musculo Ruyschii in fundo uteri*. Haffn. 1741. J. G. Roederer, *Icones uteri humani observationibus illustratæ*. Götting. 1759. J. C. Loder, *De musculo uteri structura*, Jena. J. G. Walter, *Betrachtungen über die Geburtstheile des weiblichen Geschlechtes*, Berlin, 1776. T. Simson, *Observations concerning the placenta, the two cavities of the uterus, and Ruysch's muscle in fundo uteri*, in the *Edinburgh Medical Essays*, vol. iv. no. 13. J. G. Weisse, *De Structura uteri non musculosa sed cellulosa et vasculosa*. Wirtemberg, 1784. C. H. Ribke, *Ueber die Structur der Gebärmutter*. Berlin, 1793. J. F. Lobstein, *Fragment d'anatomie physiologique sur l'organisation de la matrice*. Paris, 1803. O. F. Rosenberger, *De viribus partum efficientibus generatim et de utero speciatim, ratione substantiæ musculosæ et vasorum arteriosorum*. Halle, 1791. J. C. G. Joerg, *über das gebärorgan des menschen und der Saugthiere im schwangern und nicht schwangern*

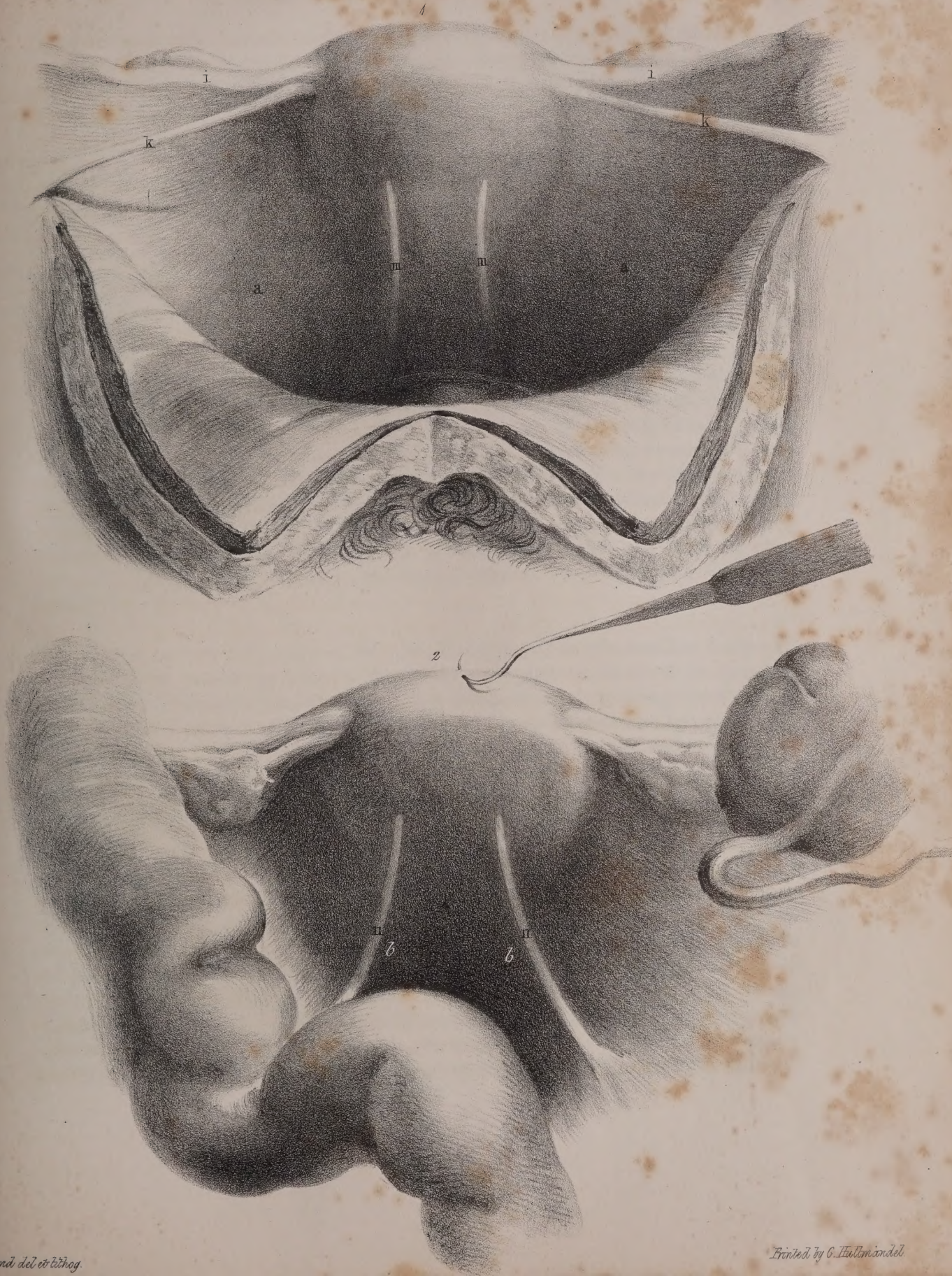
Zustande. Leipsick, 1808. G. C. Titius, de uteri structura et ejusdem functionibus. Wirtemberg, 1795. Mad. Boivin, Memorial de l'art des accouchemens. 1824. Ch. Bell on the muscularity of the uterus, Medico-Chirurgical Transactions, vol. iv. p. 335, 1813.

OF THE LATERAL APPENDAGES OF THE UTERUS.—Under this description are included the round and broad ligaments of the uterus, the communicating tubes or passages between the interior of the body of the organ and the abdominal cavity, and the glandular bodies attached to it on either side by a short ligamentous tissue, called the ovaries. These several parts are so immediately continuous from the uterus, and so intimately identified with it in uses and functions, as to require to be comprehended together with it under the same general head of anatomical descriptive history. We have already had occasion to remark that the uterus is maintained in its situation by adhesions of cellular tissue, by ligaments, and by diverse productions of its own exterior peritoneal tunic. After giving a covering to the greater part of the uterus, the peritoneum is especially produced to furnish a similar investment for what are called its ligaments. The peritoneal tissue is so slender and exquisitely delicate as to its texture, that even when folded, as we find it to be in its principal lateral prolongations from the womb, it can scarcely be expected to be of itself competent to furnish for that organ adequately secure fastenings. The fact really is that the ligaments of the uterus do not exclusively consist of peritoneal tissue. On the contrary, the peritoneal covering of the womb itself is lined, throughout its whole extent, by a sub-tunic consisting of an essentially different material. This more immediate integument of the uterus, which may be called its capsular membrane, is of considerable thickness and closeness of texture, and is intimately adherent to every part of its surface, but especially to its fundus and along the tract of its median line. As to the precise nature of its constituency, it should seem that the point has not yet been absolutely determined. By some it has been described as being cellular and membranous; and by others, as fibrous and muscular. Whatever be its intimate texture, there can be no doubt of its being well calculated to give to the organ which it invests an uniform and a most important security against any partial or irregular development of its parietes; and such, indeed, might be its only use were it exclusively a capsular investment of the uterus: but that is not the fact: on the contrary, it presents most substantial prolongations in the direction of several duplicatures of the peritoneum, which have been described as so many ligaments of the uterus; and it is in a great measure to those productions of the sub-peritoneal tunic of that organ that the ligaments in question are indebted for their competency to give it adequate sustenance and security of attachment during all its manifold changes of volume, position, and other circumstances.

Of the different ligaments of the uterus the most considerable are those which are called its anterior or round ligaments. They are produced from the lateral,

superior, and anterior part of the body of the womb; a little below and anteriorly to its lateral angles. From thence, in the form of large and roundish tissues, invested, like the uterus itself, by a peritoneal covering, they proceed in an antero-lateral direction, behind the umbilical arteries, and before the hypogastrics, until they reach respectively the inguinal rings through which they effect their passage, to be expanded into numerous fascicules of their proper tissue, and finally to distribute themselves by corresponding attachments upon the subcutaneous cellular membrane of the groins, mons veneris, labia pudendi, and the upper part interiorly of the thighs. The structure of these suspensory ligaments of the uterus, like the proximate investment already described of that organ itself, does not seem to be positively determined. From their office they are properly enough called ligaments; but they bear no resemblance whatever to such structures as are known by that designation in other parts of the body. "They are of a whitish, dense structure, flattened, narrower at their middle part than at their extremities. There are to be distinguished in their substance longitudinal fibres, which were for a long time believed to be muscular, but which appear to be nothing but condensed cellular tissue. Many tortuous vessels creep among their fibres. Fallopius asserts that these cords are enveloped by a kind of cremaster muscle; but I have never been able to see this disposition." Cloquet's System of Anatomy by Knox. Art. 2976, p. 818. Their principal use is to sustain the uterus in its proper situation in the pelvis: a fact sufficiently well attested by the circumstance that annoying sensations, aptly characterized by their usual description of DRAGGING PAINS at the groins are invariably found to accompany prolapsions and some other malpositions of that organ. Sir Charles Bell supposes that they are especially intended to give due inclination forward to the uterus, and to direct it in its ascent in the abdominal cavity during pregnancy; purposes which no doubt they serve, but which are by no means their exclusive uses. "In the gravid uterus, both the broad and round ligaments considerably alter their position, appearing to rise lower and more forward from the womb than in the unimpregnated state. This is in consequence of the greater increase of the fundus of the womb in proportion to that of the lower part of it." Bell's Anatomy of the Human Body, vol. iv. p. 232. The reader may obtain a pretty correct idea of the origin and general appearance of these ligaments by a reference to plate ix. at e and c of the first and second figures; and plate xiii. at k of the first.

OF THE ANTERIOR AND POSTERIOR LIGAMENTS OF THE UTERUS.—These anterior ligaments are two small folds of the peritoneum, which is reflected from the posterior surface of the bladder to the anterior surface of the uterus. On examination into the interior of these duplicatures, they are seen to include some few slender and compressed bands of cellulo-membranous tissue, which appear to be prolongations of the capsular tunic of the womb. They are only visible when the two organs are slightly separated the one from the other. By raising



the uterus a little above the level of its ordinary position, and inclining it an inch or two backwards, they will then be made to appear between it and the bladder, under the form of two inverted arches. See pl. xiii. fig. 1. at m. The posterior ligaments are two other duplicatures of peritoneum, likewise containing prolongations of the capsular tunic of the uterus. M. Antoine Petit, *Description Anatomique de deux ligamens de la matrice nouvellement observés, Mémoires de l'Acad. Roy. des Sciences*, 760, p. 287, considered these posterior ligaments as consisting principally of muscular fibres. They are moreover the same subordinate connexions of the uterus as have been described by authors under the designations of *plica semilunaris* and *ligamentum uteri posterius et inferius*. A. Portal. *Observ. sur la structure des parties de la generation de la femme. Mém. de l'Acad. Roy. des Sciences*, 1770, p. 183. They arise from the middle and lateral parts of the neck of the uterus behind, stretch along each side of the flooring of the posterior part of the pelvis, send out very few, if any, adhering fibres to the rectum, on each side of which they pass externally, and go to be inserted, where they become strongly attached, to the anterior and lateral surfaces of the sacrum. They are suitably supplied with blood-vessels, lymphatics, and nerves. Besides being probably intended to co-operate with other fastenings to give a general security of position to the uterus, they seem likewise especially calculated to determine the particular position of that organ relatively to the direction of the vagina; whence results the angle formed between the uterus and the vagina, at the part where they are mutually connected. See plate xiii. fig. 2, at the small letter n, where they are very correctly represented.

OF THE BROAD LIGAMENTS OF THE UTERUS.—The whole of the body and fundus of the womb, together with the greater part of its neck, is included within an investment of peritoneum. But this peritoneal covering is not a mere capsule to the uterus and commensurate only with its boundaries, but produced, as we already have had occasions to observe, in all directions, either singly or in mutually-adherent folds, to connect it with its contiguous organs and with the pelvis. The lateral prolongations instead, however, of being produced singly, like those which are determined from its anterior surface to the bladder and from its posterior surface to that of the pelvis behind, are observed to be duplicatures from the entire line of their departure from the sides of the womb; and instead of being expanded as connecting media over contiguous organs and surfaces, they are produced only to a certain distance, where they are suddenly interrupted in their course; and where they are finished off into totally different forms of structure. It deserves however to be remarked, that this description does not apply to the whole of these lateral prolongations of the uterus; it being indeed the fact that very considerable expansions of them are really propagated to the lateral parietes of the pelvis to serve the end of ligaments. Hence it is that the uterus occupying nearly the centre of the pelvis, together with its large lateral prolongations,

including the round ligaments and such parts of what are called the broad ligaments as actually serve the purposes of ligaments, may be seen to divide the pelvic cavity into two distinct spaces or chambers. It is not, therefore, true that the broad ligaments are so totally devoid of claim, as has been lately very generally represented, to the designation of ligaments. If indeed ligaments be cords or bands of whatever structure used for fastening parts to parts, then are certain portions of the membranous tissues in question truly ligaments.

OF THE FALLOPIAN TUBES.—These are minute passages or canals included within the folds of the lateral peritoneal prolongations of the uterus just described. They indeed directly communicate at its superior and lateral angles with the triangular cavity of the body of the womb. They are enclosed immediately within the boundary of their folded parietal tunics; their external covering being of course produced from the lateral angles of the uterus, externally, and their lining membrane from the mucous lining of its cavity. Intermediately between their peritoneal tunic and their mucous lining there is interposed a middle membrane, of which the precise nature of the tissue is not indisputably determined. That it is fibrous and even muscular may not appear improbable, when we consider the actions which the entire tubes must be presumed competent to perform, and the uses which they are known to subserve. It is accordingly asserted that in women of a robust complexion two layers of muscular fibres have been seen to enter into its texture, viz. an external one, formed by longitudinal fibres, and an internal one, consisting of circular fibres. Meckel's Manual of Anatomy, French edition, article 2410, page 600. The length of these tubes is variously represented by different authors. The fact of the case appears to be, that their dimensions in this respect are really very different in different subjects, not to add that much of this diversity may be fairly attributed to influences resulting from repeated gestations, age, states of the general and functional health, and many other circumstances. Their average length may however be stated with sufficient practical accuracy at between three and four inches. Their diameter differs greatly in different stages of their length. At their uterine orifices, which are bounded by small ringlets or borders of much firmer texture than that of the parts immediately adjoining, they are often so small as scarcely to be visible. In most cases, however, they are of sufficient diameter to admit the blunt or glandular end of a hog's bristle. Commensurately with the uterine half of their length they continue to be very narrow, their diameter not exceeding half a line, and scarcely equalling that of the vasa deferentia at their commencement. They then usually acquire the size of a small goose-quill; though in this respect also we meet with great varieties. "I have often," says Portal, *Anatomie Medicale*, tom. v, p. 502, "found the Fallopian tubes so contracted that I could not pass a bristle through them, although their extremities were amply dilated." A little beyond their central distance from their uterine orifices they become slightly tortuous: but the amount and loca-

lity of these curves are very uncertain. At some little distance from their abdominal apertures they again become contracted, but soon to become expanded into their respective pavilions and trumpet-mouthed terminations. The entry into, course, and interior appearance of these tubes are exceedingly well represented in the several figures, 1, 2, 3, of plate ix. At a in fig. 1 is exhibited a black point in the centre of a section within the distance of about three quarters of an inch from its uterine aperture, of each tube. That point shows a bisection of the minute passage itself. At the part marked b in fig. 2, is seen something of the tortuousness of its course: the small b in fig. 3, is intended to give an idea of what is called its pavilion. Its pavilion is continuous with the sudden and trumpet-like expansion of its abdominal extremity. This extremity is free, floating, and bounded by fringes of carunculous-looking tonguelets. Of these fimbriæ some one or two may be generally observed to be longer than all the rest. The fimbriated termination of each tube has been distinguished by authors by the whimsical appellation of *MORSUS DIABOLI*. It is asserted by some of the writers on these subjects, that the same part in a state of expansion is usually found reverted, that is, presenting its concave surface towards its neighbour the ovary of the same side, which is situated immediately behind it. The author does not feel himself competent to confirm this statement, inasmuch as he cannot charge his recollection, in the course of his dissections or post-mortem examinations, with having met with a single example of the disposition in question. It has been likewise represented in consequence probably of comparisons instituted between the supposed cellular and cavernous texture of parts of their parietes and the corpora cavernosa of the clitoris and of the penis, that like them also they experience a state of erection during the sexual congress. It does not seem possible to devise any experimental means by which those hypothetical assumptions could be either controverted or confirmed. The intense pain which of course would attend any experiments for ascertaining such points might be expected to put an end to all functional erections almost as speedily and as certainly as death itself. A part of one of these tubes is represented as laid open to show the longitudinally fibrous appearance of its cavity, fig. 3 at b and along the tract of the bristle.

The passage through each of the Fallopian tubes has been considered by some reputable anatomists as bearing no little analogy in its structure to that of the vas deferens in the male subject. Its parietes it is maintained are equally firm and resistant, and therefore equally incapable of collapsing upon themselves, and similarly self-protective against compression from the approach of contiguous parts. Their cavity is therefore always sufficiently dilated to enable them to perform the functions which are natural to them. The notion of this analogy is obviously founded upon the hypothesis of the Fallopian tubes being the conductors of semen fœmininum from the ovaries to the uterus. The interior of these canals is almost always charged with a humour, furnished by a folliculo-glandular apparatus, which is scarcely visible in the natural

and healthy state of the parts; but which is rendered more or less apparent during the presence of disease.

The blood-vessels of the Fallopian tubes are branches respectively of the spermatic arteries and spermatic veins. These vessels are very numerous distributed, especially upon their fimbriated extremities, where many ramules having the appearance of veins may be actually seen. Descriptions have likewise been published of similarly abundant distributions of lymphatics to the same organs. Their uses will be made the subject of consideration under a future head of discussion.

OF THE OVARIES. OVARIA. TESTES MULIEBRES.—The ovaries are two ovöid bodies of a glandular structure of a whitish-grey colour, of about the size of a pigeon's egg slightly flattened in the direction of their anterior and posterior surfaces, situated in the lateral parts of the pelvic cavity, behind the Fallopian tubes, suspended by short ligaments from the fundus of the uterus, a little behind its lateral angles which are covered with much cellular tissue and a coating of peritoneum, produced from the surface of the uterus and reflected from those of the Fallopian tubes. The figure and volume of these bodies vary in different ages. In the foetus they are very slender and long. See a beautiful representation of them as apparently reposing on the bat's wing, presented on withdrawing the abdominal parietes of a child that died a few hours after birth. Pl. viii. fig. 1. After birth they acquire a more rounded form. In the adult female after puberty they present their amplest fulness of dimensions in all directions, and their surfaces appear plump and smooth. Plate ix. fig. 2, at a, and plate xiii. fig. 3. At the age of between forty-five and fifty they begin to shrink; and thenceforward to advanced old age they gradually diminish in size; their constituent structure becoming at the same time indurated, in some parts fissured and more and more wrinkled and uneven, until at length they are reduced into a volume of less than half of their magnitude during the period of their most perfect development. Each ovary has two surfaces, an anterior and a posterior one. They may be said also to have two edged boundaries or borders; one superior, which is slightly rounded and free, and the other inferior which is adherent to a produced pinion or lapelle from the broad ligament. It has, moreover, two extremities; of which one is external and more remote, and to which one or more of the principal fringes of the Fallopian tube of the same side is not unfrequently seen adherent; and the other an internal one attached to a narrow slender chord of a ligamentous texture, which serves to connect the ovary to the superior and lateral part of the uterus immediately behind the origin of the Fallopian tube. This ligament has been supposed by some anatomists to include a canal or passage of communication between each ovary and the cavity of the uterus. But the fact is that no such passage exists, and any appearances of fistulous communications between the one organ and the other, will be easily ascertained to have been empty tubes of sanguiferous or lymphatic

vessels. The ovaries are covered externally by a tunic of peritoneum, which is produced to them, as already stated, from the fundus and body of the uterus posteriorly, and from the broad ligaments anteriorly. Immediately within this tunic there is another investment consisting of a whitish fibrous membrane, very solid and close textured, THE TUNICA ALBUGINEA OF AUTHORS. These two coverings of the ovaries are so intimately adherent the one to the other, that they cannot be separated. The internal one is perforated on the inferior border of the gland by numerous vessels which go to distribute themselves upon the proper substance of the organ. On cutting into the parenchymatous tissue of these bodies, it would appear to be chiefly "composed of cellular and vascular lobules of a greyish colour gorged with a great quantity of fluid. In the midst of these lobules are lodged small vesicles to the number of from fifteen to twenty, transparent, of the size of a millet-seed, and formed by a very delicate pellicle, in which is contained viscid fluid, of a reddish or yellowish colour. Around these vesicles the vascular ramifications are more numerous and more minute." In adopting from Cloquet, Knox's translation, p. 819, the matter of the quoted passage, the author has to state that the vesicular bodies are generally of larger size than millet-seed, and frequently charged with a perfectly transparent fluid. "Their volume," says Meckel, art. 2408, p. 600, "is not the same in all, and they appear to be developed in succession some before the others. The larger ones are nearly three lines in diameter. They are more abundant near the circumference of each ovary than in its centre. Their number varies from eight to twenty in virgins." By referring to a section of an ovary as represented in fig. 2, plate xii. the reader may form to himself a pretty accurate idea of the vesicular corpuscles now describing. The beautiful expansion of vascular structure immediately below the displayed ovary, and stretching between it and the Fallopian tube, is that part of one of the broad ligaments called, as applied to both ligaments, ALÆ VESPERTILIONIS. "When we hold a section of the ovarium betwixt the eye and the light," observes Sir Charles Bell, "we see a great many pellucid vesicles; and if we examine the ovarium of an animal killed in full health, and particularly in the season, we shall observe these ova to be in all varieties of states of preparation for impregnation. Some small and pellucid, and yet only discernible in the thick outer coat by having a greater degree of transparency; others which have taken a slight tinge of bloody colour from vessels striking into them; and if the section be made after a minute injection, the vesicles will be seen coloured in the proportion of their maturity; some without a speck of colour, others tinged, one or two loaded with injection, and some vascular and particularly prominent. In very young girls the substance of the ovarium is whitish and very soft; the surrounding membrane is thick, and the round corpuscles scarcely discernible, and no irregularities, nor any of those bodies called corpora lutea are to be seen on the surface. But as the subject advances in years, the little vesicles begin to appear, and when about

ten years of age or just before menstruation, the ovarium is full of ova of various sizes, and some of them more matured and forming an eminence upon the surface. In the adult woman the substance of the ovarium which appeared as a uniform homogeneous mass in the fœtus is become a cellular and vascular bed, giving nourishment to those numerous vesicles or ova." Bell's *Anatomy of the Human Body*, vol. iv. p. 238.

The ovaries are indebted for their principal supply of arterial blood to a large branch transmitted to each of them from the spermatic arteries; and they return their venous blood to the emulgents or vena cava by corresponding branches of the spermatic veins. Their lymphatics are parts of the general system of lymphatics which supply the uterus, with which they abundantly communicate as well as with those of the Fallopian tubes. They convey their contents to those of the mesentery and the kidneys. These bodies derive their nerves from the renal plexus. Casp. Bartholin. de Ovariis Mulierum. Gvern. Dethard. Motz. Dissert. Inauguralis, de Structura, Usu et Morbis Ovariorum. Vesalii, De corporis humani fabrica, lib. 5, cap. 15, p. 459. Fallopii Oper. Omn. tom. i. p. 106. Venet. 1606. Stenon. acta Haffniæ. De Ovo et Pullo. et Obs. Anat. Spectant. Ova Viviparorum, obs. 89 et 98. Regner de Graaf de Mulierum Organis Generationi inservientibus, tom. i. p. 171. Johan. Dominic. Santorini Observ. Anatom. cap. 11. De Mulierum Partibus. Swammerdam. De Miraculo Naturæ Epistola. Halleri Elementa Physiolog. tom. vii. p. 108. Mich. Etmulleri Epist. Problem. de ovario novo. Amst. 1715. Sebatier, Traité Complet d'Anatomie, tom. ii. p. 409, et sequent. Fernandi Leber. Prælect. Anatom. p. 352. Winslow. Exposition Anatomique de la Structure du Corps Humain, Amst. 1752, tom. iv. § 603, 604. p. 62. Mayer's Beschreibung des ganzen menschlichen Körpers, vol. v. p. 226, 227. I. G. Walter, Tabulæ Nervorum Thoracis et Abdominis. Berolin. 1783. Cruikshanks on the Absorbents. Hunter's plates of the gravid uterus.

OF THE FUNCTIONS OF THE UNIMPREGNATED UTERUS.—The uterus appears to perform no functions, nor to be subservient to any direct uses, during infancy and childhood. Until the age of puberty, a most remarkable period of life, common to both sexes, it merely occupies its allotted space in the pelvic cavity, simply sustaining for the benefit of contiguous viscera the office of an intermediate organ, and such vital actions as are indispensably necessary to the preservation of life in its own tissue. On the accession of puberty, however, it becomes the subject of certain changes and developments, in consequence of which, and in connexion with consenting and co-operating influences from the ovaries and other essentially sexual appendages, it arrives at the full possession of its natural attributes. Of these attributes one of the most remarkable and important is the function of menstruation, to the consideration of which, as being essential to the due establishment and performance of other

functions which succeed it in the order of development, and which are identified with the peculiar destinies of the sex, the author has now therefore, in the natural order of his subject, to request his reader's attention.

OF MENSTRUATION. MENSES. MENSTRUUA. CATAMENIA. FLORES MULIEBRES. PERIODS, AND MANY OTHER SYNONYMS.—Menstruation may be defined to be a functional evacuation from the genital organs of the human female of a fluid having the appearance of blood, which commences at puberty, returns at regularly-measured intervals during the possession of the capacity of fecundation, is intermitted during pregnancy and lactation, and finally ceases in common and contemporaneously with the faculty of reproduction. It is a function to which it is probable that the female of our species has been subject in all countries, in all ages, and in all states and stages of civilization, notwithstanding some fanciful representations to the contrary which from time to time have been indulged in by visionary and wonders-propagating writers. It commences at the age of puberty. But the date of that period is subject to great varieties; whilst the term itself which expresses it is comprehensive of an interesting assemblage of circumstances inseparable from the perfect development of the female constitution. It would seem therefore proper, before we proceed to our subject of MENSTRUATION, to premise a few observations on that of puberty. It is an observation of Buffon, *Hist. Natur. de l'Homme*, *Œuvres Complètes*, *Hist. des Animaux*, vol. iv. p. 478, that “puberty accompanies adolescence and precedes youth.” Up to that period nature appears only to have laboured to provide the means merely for the growth and conservation of her work. The infant is nourished and it grows. Its developments, in common with those of the child, are exclusively personal, and its constantly-renewed supplies of the means are wholly expended for the extension and eventual completion of its own proper parts and faculties. Those objects attained, and the subject having arrived at its destined limits as to the size and plan of its speedily-to-be-matured fabric, nature seems for a moment to make a pause; as if it were to arrange her measures for the execution of certain ulterior intentions in its behalf. The function of growth ceasing, and yet the actions of life continuing, and being even invigorated at this important period, it might be expected that it should be made the epoch of any new developments either of parts or of attributes which might yet be necessary for the perfection and perpetuation of our being. This work is accordingly forthwith undertaken; and the phenomena of puberty, of which some are proper to one, and the greater number common to both sexes, present themselves in their ordinary succession. Among the earliest indications of the approach of puberty is a sort of sense of numbness and of fulness about the groins, accompanied in many cases by slight pains about the joints, which in this country are rather characteristically called GROWING PAINS. Certain sensations of a peculiar kind, but scarcely to be designated sexual, are usually felt about

this time, at or in the neighbourhood of the external genitals, where small whitish prominences may be ascertained to present themselves, which are to become the seats innumera- bly, gland to its production, each to each proportioned, of the hairy covering by which the pubes and the pudendal surfaces of the adult of both sexes are usually more or less concealed and protected. This is also the period of the remarkable change which takes place in the human voice; in that of the male of its key or tone, but in that of the female, and that not always striking, only of its melody and music. The young of both sexes are also observed to acquire at this epoch their usually ultimate and allotted complement of stature; it being observed that an increase, especially of height, not unfrequently takes place during the immediately previous months, even of SEVERAL INCHES. But the parts of the body which experience the greatest increase of development on the accession of puberty, are the generative organs, ALSO OF BOTH SEXES. The most characteristic signs of the advent of puberty in the male are perhaps the growth of the beard and the powers of secreting and emitting semen; and in the female, the eruption of the menses and the development of the mammæ. To the date of the occurrence of these several indications, however, there are occasional exceptions. In many cases, for example, in the male subject, the beard does not appear immediately on the attainment of the other privileges of the period; and the other mentioned faculty has occasionally either not developed itself at all, or but very feebly, until after the lapse of some years subsequently: whereas, in a few individuals of the other sex, the catamenial function has never appeared, or been long retarded; while the distinctive organs alluded to, which, speaking of one of them, a late eminent writer on the sublime and beautiful, characterised as the most beautiful part of a beautiful woman, have never received any accession of volume whatever, either at the age of puberty, or at any subsequent period.

The period of puberty, as it presents itself in the human species, occurs considerably sooner in the female than it does in the male; but the earliness or lateness of its accession in both sexes seems not a little to depend upon the influences of climate and of modes of life. In hot countries, and among the inhabitants of wealthy cities and towns, who live at their ease and in habits of plenty and luxury, it occurs much earlier than in colder regions, where children are exposed to the contracting influences of low and chilling temperatures, and in country villages and remote districts where they are liable to be stunted in their physical developments by the penury and scanty means, and sometimes even the absolutely destitute circumstances of their parents. Hence the fact, for the reality of which we have the evidence of most accurate and competent reporters, that in all the southern countries of Europe girls arrive at puberty at or before the age of twelve, and boys at that of fourteen; whilst in cold northern regions the same indications of maturity are not attained till the ages respectively of fourteen and sixteen. This difference as to the time of accession of puberty in the two sexes is no doubt ascribable to the more extended stature, to the

firmer texture of the fleshy parts, and to the more resistant and massive solidity of the osseous system of the male subject; in consequence of which the progress of his developments must be more gradual, and their completion protracted to a later period than those of the female; distinguished, as she manifestly is, for the greater brevity and slenderness, delicacy and succulence, of her frame. In the more fervid climates of Asia and Africa, the women arrive at puberty at ten years of age, and not unfrequently at nine. Some years ago an English gentleman resident at Malta, who there occupied a distinguished post under the Government, favoured the author with the fact, that the native girls of that island sometimes marry before they attain even the latter age, and generally within a year or two afterwards. It is a matter of history, that the celebrated prophet of the Moslem faith consummated his marriage with one of his wives "when she was full eight years old." "And now Khadija his wife being dead, after she had lived twenty-two years with him, to strengthen himself the more, he took two other wives in her stead, Ayesha the daughter of Abu Beker, and Sewda the daughter of Zama."... "Ayesha was then not six years old, and therefore he did not take her into his bed till two years after, when she was full eight years old. For it is usual in those hot countries as it is all India over, which is in the same clime with Arabia, for women to be ripe for marriage at that age, and also to bear children the year following." Prideaux's *Life of Mahomet*, p. 30, 1718. We are on the other hand informed that in Sweden, Norway, and a great part of Russia, menstruation does not often take place till the more stayed ages of seventeen or eighteen. In reference to this latter fact it might seem open at least to a presumption that so much absence of alacrity to engage in a function so essential to reproduction, as in the sequel we shall find menstruation to be, might have an unfavourable effect upon the population of the countries of the north. The facts of history are, however, directly opposed to such a conclusion; and the explanation seems to be, that in those countries, the duration of the function comprehends a more extended series of years; that the women are strong and well constituted; and that they therefore are competent to menstruate more regularly and during a longer portion of their lives than the women of the south: whence it results that in the end they are found more prolific, and that under favourable circumstances as to the means of living, they become the parents of a healthier and more vigorous offspring. We are accordingly informed by Rudbeck and other writers, that the Swedes have usually families of ten or twelve children, AND NOT VERY RARELY a progeny equal to more than twice those numbers. It should not therefore seem surprising that the population of those countries, in other respects so unproductive, was become so superabundant during the Goth and Vandal times as to have been competent to furnish entire armies of adventurers, first to conquer and finally to colonise distant and more favoured regions. But let us reverse the picture. M. Virey, in his article on climate, in *le Dict. des Sc. Medic.* observes that the burning climates of the more southern countries of Europe are well known to produce "strongly-

marked nervous temperaments and great precociousness of puberty. Hence," he adds, "the women of those countries have scarcely grown out of their infancy before they become mothers. But, mark the consequence: just like those perishing flowers of a day which the ardour of a summer's sun causes to open in the morning, and in the evening to wither and die, they soon lose their fecundity, and pass rapidly from the morning of their lives towards its decline and close." This fact is well understood by the English inhabitants of India, who all send their children to England, in order to avoid the known effects of the climate of India in the production of precocious developments; but developments too premature to be permanently compatible with vigorous health, and almost certainly inductive of an early death.

The physical developments incident to the accession of puberty, *i. e.* of ripened qualification in the female for the due performance of her sexual functions, are almost always accompanied by the earlier and the more or less successful efforts of her characteristic function of MENSTRUATION. That function is, indeed, so constantly an attendant on the other condition, that some of the most important attributes of the latter are often presumed to be of doubtful existence until attested by the presence of the former. In the order of functional developments incident to a healthy female on the accession of puberty, menstruation may indeed be said to be the first which should be considered as decidedly sexual. Its commencement, or first manifestation, is announced by certain symptoms which usually present themselves as precursory or attendant phenomena. The mammæ, already considerably developed, become sensibly fuller and firmer. The young subject experiences a sense of weight and tension, as also frequently of heat in the hypogastric region; a slight pruritus in some cases of the pudendal surfaces, and much general lassitude. A sero-mucous discharge is found to distil from the vulva. This earlier form of the function may possibly be repeated for several successive periods. In the course, however, of not many months the character of the discharge becomes more decidedly sanguineous. But in this respect it is liable to considerable variations during the few earlier months subsequently to the commencement of the function. In some cases, after having once or repeatedly occurred, it is suspended for an uncertain period of time, to be again resumed, most frequently with more regularity, and finally to be permanently established.

In addition to the physical changes, of which some of the principal have been already noticed, and many more might have been enumerated, as being usually attendant on the accession of the age of puberty, the fair adolescent becomes the subject, at this, her "spring-time of nature, the season of pleasures," as beautifully denominated by the great French naturalist, of an entire class of moral affections, of which she has never before felt the influence, but which she will be always afterwards competent to recognise as EMOTIONS OF THE HEART. Secretly conscious of her new attainments, and perhaps not insensible to their accompanying infirmities, the young sufferer, when she has to sustain

the novel and frequently very painful symptoms incident to the efforts of the catamenial function during the months immediately consequent on its first appearance, is often observed to be exceedingly pensive and reserved, and uncomfortably addicted to the habits of sighing and blushing; the one without any obvious cause, and the other on the most trifling occasions. These symptoms do not, however, present themselves in all cases. In some they may be presumed to occur with less frequency and intensity, so as in a great measure to escape observation, and in others they are not at all felt: in which latter cases the function is of course duly instituted and executed without any very striking antecedent announcements.

The catamenial nîsus is indeed sometimes attended by symptoms of so much severity, such as exquisite headaches, painful rigidities of the muscles of the neck, aching pains of the loins and thighs, a sense of heat and fulness in the hypogastric region, occasionally hysterical symptoms, and, in short, such an assemblage of sufferings as to amount to a very morbid performance of the function. A certain class again of more than usually irritable women are observed to become subject, during the presence of the period, to the most singular caprices and the most whimsical and extravagant tastes; or, as in other cases, to the most pitiable depressions of spirits, or to the most tempestuous paroxysms of the irascible passions. In a small proportion of cases there is a feverish acceleration of the pulse, accompanied by hæmorrhages from the nose and other outlets of the body. Bordeu, *Recherches sur le pouls*, tom. i. Sometimes the pulse is hard, velocious, irregular, and attended with distressing palpitations of the heart.

THE QUANTITY of secreted fluid furnished by each period of menstruation seems to be very different in different subjects. These differences are no doubt ascribable to a thousand influences, which it would be scarcely possible to enumerate; but principally and summarily to those of climate, states of health, individual temperament, the amount of means and diverse modes of living.

With respect to the influence of climate in this matter, we meet with no great discrepancies of opinion amongst practical writers; it being something more perhaps than a very general presumption that women menstruate less abundantly in hot than in more temperate regions, and somewhat more abundantly in the latter than in the coldest countries of the north. This difference is attributed to the balancing influence of the cutaneous function of perspiration. "In hot climates," says Buffon, "where the TRANSPIRATION is greater than in cold countries, the catamenial secretion is less." *Hist. Nat. de l'Homme*, tom. iv. p. 491. "In general," Maigrier observes, *Dict. Medicafe*, tom. xxxii. p. 386, "the women of the south have their periods less abundantly than those of the north; but we may remark that those who live under the equator, as well as those who inhabit the most northern countries of the globe, have scarcely any traces of them. With respect to the former, their fluids are so volatilized by the excessive heat of their climate as to become insufficient to furnish the means of

a menstrual secretion; and as for the latter, the rigour of their cold is such as, by constringing all their natural filters, to produce similar results." The author is very doubtful whether M. Maigrier, in respect to the total absence of the menstrual function in the extreme northern latitudes, has not considerably over-stated his case. Women of nervous and irritable temperaments, otherwise sometimes called bilious and melancholic, menstruate abundantly, sometimes profusely; whilst, on the contrary, with those of robust and well-steadied constitutions the secretion usually appears in sparing quantity, as also in the cases of persons of feeble and cachactic health, who begin to menstruate late, and who perform the function difficultly and painfully. Females who live in towns, and who have frequent opportunities of engaging in the public pleasures of gay and fashionable society, exposed to all the temptations incident to the possession or accessibleness of whatever means may be calculated to exalt the imagination, to inflame the passions, and, by excessive or too frequent indulgences, to abuse the appetites, are in most cases the subjects of precocious, profuse, and morbidly irregular menstrual discharges. On the rear of the same class of females, and therefore subject to the same evil results, are the idle, the unfortunates, and the dissipated in all ranks of society. "All the arts," says Gardien, "such as music and painting, including that of design, excite vividly the imagination. Music especially, cultivated too exclusively and at too early a period, develops an extreme sensibility. It was to an imprudence of this kind that we have heard attributed the death, on the approach of puberty, of both the daughters of Grétry, the celebrated musician." Women of naturally strong passions, all other things being equal, are said to menstruate more abundantly than those of colder temperament, and such are indifferent to the privileges of connubial life. The evacuation is moreover less abundant with the average of women who live in the country than with a large proportion, as we have already seen, of such as inhabit great cities and towns, not only because the atmosphere of the country is more uncontaminated and salubrious, but because also its inhabitants are usually more regularly and usefully employed, and exempt from the profligate vices of great societies. The produce of the catamenial function becomes ordinarily less abundant with advancing life; and the same thing is true, but on a smaller proportional scale, in the instance of some mothers of numerous offsprings. A first gestation has sometimes improved the character and habits of the function; but there is reason to fear that such an advantage is not generally to be calculated upon. On the contrary, it may be admitted as an axiom founded on extensive observation of the phenomena of the function, that if it be performed imperfectly, painfully, or otherwise irregularly, during the first few years of the menstruating part of a woman's life, it will continue to be so performed throughout the remainder of it.

The reader will perhaps observe that no average quantity has yet been named for the produce of each menstruating period. The peculiar character or mode

of performance of the function is indeed such as to make it obviously impossible to arrive at any positive conclusion on that point. The author of the treatise on the diseases of women, usually attributed to Hippocrates, states it as amounting to two hemines; measures, both taken together, supposed by Dr. Friend, the learned but intolerably vapid historian of our profession, to have been equal to about eighteen English ounces. The concurrent opinions, or rather conjectures, of most modern practitioners, to whom it might be permitted to form even probable conjectures, would seem to graduate its average quantity, as it presents itself in the more temperate climates of Europe, at an amount of between four and six English ounces.

In consideration of the universality of the function which we are engaged in discussing, and its co-extension with all ages and countries and tribes of people, it seems scarcely necessary to notice a speculation, a play of the fancy, a mere abortion of a doctrine which has attempted to maintain that it is not a natural and an essential function of the human female. A modern writer of a neighbouring country, of no mean reputation, has thought it not unworthy of his character to indite the following observations in support of it. "All these facts induce us strongly to conjecture that there must have been a time when women were not subjected to this inconvenient tribute; that the menstrual evacuation, so far from being a natural institution, is on the contrary a factitious acquirement contracted in the social state. Men congregated together into clans have always sought to tighten their bond of common union by the cordialities of feasting. Joy is more vivacious and the overflowings of the heart more tender when the living machine is renovated by a fresh supply of aliment. We are then more satisfied with others because we are satisfied with ourselves. The absence of cares gives to nature freedom to enjoy all her rights and even to abuse them; for then it often happens that not distinguishing the impression of pleasure produced by the good things on the table from that of the accompanying gaiety, she easily mistakes the one for the other, and overcharges herself with the tempting dainties for a long time after her actual wants are satisfied. These repasts, of which friendship and the necessity of being together gave the first idea, the suggestions of intemperance caused afterwards to be repeated for purposes of sensuality. The simple and natural tastes of foods are sufficient for those who have only their appetite to content, but do not always stimulate enough the palates of those who think it necessary to eat without appetite. Thus it becomes indispensably necessary to have recourse to the perfidious refinements of art, in order to rouse to its natural enjoyment a difficult and over-nice palate, and to make agreeable to the mouth what the stomach might refuse, if presented to it unmodified by the allurements of condiments. By degrees a general habit is formed by which people are led to take more food than is necessary for repairing the daily waste of their bodies. These, in consequence, find themselves oppressed by an excessive superabundance of alimentary juices, of which idleness and want of exercise are calculated to increase the inconvenience. Nature, attentive

to the due preservation of her balance of the loss and reparation by which life is sustained, makes efforts to disembarass herself of a dangerous superfluity by convenient evacuations. The effects of this disposition were common to both sexes. In general men as well as women found themselves in a state of habitual plethora, which in both produced the necessity of effluxions, which differed indeed in their form, but which were the same in their principle. For the relief of the men, nature substituted for uterine evacuations hæmorrhages from different sources, according to the age of the subject. In cases where such hæmorrhages became necessary and did not take place, there resulted a long train of symptoms or a predisposition more or less decisive to certain diseases; such as diverse affections of the chest, rheumatism, hypochondriasis, calculous diseases, gout, asthma, apoplexy, &c. It is possible to escape this dangerous alternative only by a regimen of life calculated to destroy the cause upon which it depends. Women, by reason of their sedentary and more inactive manner of life, are not so readily emancipated from the common predicament. The nature of their occupations has a tendency rather to promote the superabundance which is common to them with men, instead of diminishing it; but then they have natural filters which are more commodious for relieving themselves of superabundant humours, as well as of other things, of which the retention might prove injurious to them. Inferior animals, whose allegiance remains faithful to the dominion of nature, and following nature for their guide, have no necessity for the same resource. They are not subject, as man is, to hæmorrhages, nor consequently to the morbid affections of which they are the causes. The hæmorrhages in question are become a necessary function, inasmuch as that in the actual state of things a WOMAN IS BORN WITH A DISPOSITION TO HAVE HER PERIODS, AT A CERTAIN AGE, AS SHE IS BORN WITH A DISPOSITION TO HAVE THE SMALL-POX. A new factitious necessity is created as a new disease is engendered. If we could trace all the changes which the human species has sustained from its origin to the present day, we should probably see that it has not always been subject to the same wants, to the same functions, and to the same diseases, as it now is. When once having contracted an infirmity or a new condition, and that without a doubt takes place in all animals, that infirmity or condition is transmitted from generation to generation, and is perpetuated indefinitely until a counteracting cause shall come to destroy it. It is thus that the breeds of animals degenerate, and that their races come to sustain, in the course of ages, the most important changes. It is in a similar manner that the menstrual evacuation, once introduced into the human species, has been uninterruptedly communicated by FILIATION: so that it may be predicated that a woman of the present day has her periods for the SIMPLE REASON that her mother had them, just as she might have a consumption, because transmitted to her from the same source. Moreover she may be subject to the menstrual evacuation, even although the cause which originally produced the necessity for it might not exist in her case. In fact many women

do actually menstruate without being plethoric or overcharged with humours. The catamenial discharge in these women is to be ascribed solely to the habitual direction of nature's movements, like the periodical hæmorrhages which are sometimes experienced by men of exhausted constitutions.

The evacuation should be doubly necessary, when the cause which has originally produced it concurs with hereditary habit to effect its propagation. Thus the menses will be more abundant in persons who take a greater quantity of aliment and less exercise, than in the opposite circumstances : moreover, women who inhabit towns where intemperance and idleness add respectively their influence to these two conditions, are more frequently the subjects of profuse menstruation than women who live in the country accustomed to a regimen more simple and more conformed to nature.

The menstrual discharge can only commence at the age of puberty, if the order of the functions be not inverted. Nature, once relieved by this evacuation, repeats it on the occurrence of the same demand for it ; first from a SORT OF CONFUSED RECOLLECTION of the benefit she had once derived from it, and afterwards from habit, if the subject be not already possessed of the power from family inheritance. The menstrual evacuation is not the only function over which habit has an indisputable influence. Our machine has a singular disposition to perform certain acts at certain marked periods. Who does not know that our desire for food and sleep usually forestalls the want of either ; and that in each case it is only provoked by habit ? If we observed with attention, we should discover that many indeed of our internal movements are regulated by this principle : and there is probably no person who has not perceived that our grosser functions, in common with our more delicate, do not more or less follow marked periods. This disposition to repeat the same movements at fixed and determinate times, is a cause, as we have already remarked, why women, not actually in a plethoric state, should menstruate as if they really were plethoric. It is then with women as it is with subjects of some diseases, in whom febrile movements are sustained by a sort of habitual impulse, even subsequently to the removal of their original cause. This is especially the case in intermittent fevers ; the paroxysms of the disease continuing, in many cases, to be repeated after the originally existing cause has ceased to operate ; a circumstance, no doubt, well calculated to mislead a physician who may not be sufficiently aware of it.

Whatever be the cause and the object of the menstrual evacuation, it is not doubtful that it is a source of annoyance to all women, and that in a great number it is productive of inconveniences amounting to little short of positive disease. In the mean time, these inconveniences, by preventing more serious evils, ARE BECOME THE FOUNDATION OF HEALTH IN THE SEX, AS HÆMORRHŌIDS, OR OTHER HABITUAL DISCHARGES, ARE CONDUCTIVE TO THE HEALTH OF MANY MEN. Such actually is the unfortunate condition of the human species, that even its infirmities are necessary sources of relief to it, and that

there only remains to it a choice of evils. *Système Physique et Moral de la Femme*, p. 113, par Pierre Roussel. Paris, 1809.

In objection to the above theory, it may be observed, that the known history of our species, in all ages and countries, is directly opposed to it. 2. It is probable that in no circumstances of external condition, or physical education or habits, has the human female been exempted from the operation of this law of her constitution, without sustaining more or less of detriment to her health, personal strength, or sexual attributes. 3. Among the rare examples of exception to its influence, which have been referred to by medical writers, the number of cases in which the inconvenience and even the danger to life have not been obvious and striking, has been so small, as to seem not a little calculated to give additional confirmation to the general principle.

There are few peculiarities of opinion which may not be maintained with some semblance of argument by ingenious men. Why therefore should Roussel's curious doctrine be presumed to form an inglorious exception? Wherefore should not the darling and sprightly bantling be nursed and protected? It is not many years ago since it was gravely propounded by a Scotch lawyer and philosopher, that man, in common with other animals, distinguished by the possession of a catenated spine, must originally, also like them, have been put in possession of a caudal extremity or tail; that after a lapse of many years, perhaps of ages, when families found it convenient "to tighten their bond of common union by the cordialities of feastings," he discovered that his tail was an incumbrance to him, by forming a constant impediment to his assumption of certain positions of body, such as those of sitting and reclining, which, in the progress of his diverse improvements, became more and more necessary to his comforts; that, in order to secure for himself the most ample enjoyment of such means of happiness as his increasingly artificial condition brought within his reach, unalloyed by any teasing disturbances or embarrassment even from results of natural conformation, he was actually induced to effect the removal of his tail by a bold and mutilating operation; that, in process of time, the same spinal appendage, originally no doubt a great ornament to his person, and a powerful helm to give direction to his fleet movements, after having been subjected, for sundry successive generations, to the mutilating treatment in question, at length obeyed a well-known law of the animal economy by succumbing under its cruel inflictions; that, in fact, it became the subject of gradual diminution, both of its dimensions and utility; and finally, yielding to its factitious but irreversible destiny, it altogether ceased to be reproduced; its unregretted absence having been made available "*et fortunam facere et dare homini novum fatum.*" But in exchange for such advantages were there no subsequent evil results? Did offended nature indulge in no resentments? What especially might not be expected to become the future condition of the betruncoated remains of the sacral arteries, and of some of their inosculating and attached associates from the internal iliacs, from which, of course, had been

produced the numerous ramifications of splendid length which had originally supplied the human tail with arterial blood? In answer to these reasonable and most important queries, the author would here take the opportunity of offering to the kindred shades of Roussel and Monboddo, for peradventure "*manes elicere, animas responsa daturas*," the tribute of his vivid recollection and humble admiration of the fine frenzies rolling, and the translucent speculations of their mighty and meteor minds, by submitting to their now trans-terrestrial consideration, whether their respective doctrines, the one having for its subject the non-original institution of the menstrual function in the human female, and the other that of the total disappearance of the caudal extremity in the entire race of man, may not be mutually reconciled, and so made more than ever confirmatory of the extreme verisimilitude of each, if not absolutely decisive of the truth of both, by being brought together and united under the common relationship of cause and effect? This relationship once consummated and fully admitted, what more beautifully and strikingly conclusive, than the obvious inference that the menstrual function in the human female, is an effect of the removal of the caudal appendage originally appertaining to her spine? Hence the plethoric condition of her sacral and internal iliac arteries, and, in short, of her entire uterine system, during the more vigorous years of her life. Hence also, superveniently to the same result in the other sex, came to be established "the necessity of corresponding effluxions, which differed indeed in their form, but which were the same in their principle:" and of which the failure and non-appearance were followed by "diverse affections of the chest, rheumatism, hypochondriasis, calculous diseases, gout, asthma, apoplexy, &c." In support of the singular accordance of these remarkable doctrines, when thus brought together to sustain the mutual application of each other, nothing surely need be added by way of illustration. *Sat haud dubium sapienti.*

OF CERTAIN IRREGULARITIES INCIDENT TO THE COMMENCEMENT, DURATION, AND TERMINATION OF THE MENSTRUAL FUNCTION IN THE HUMAN FEMALE.—It has been already seen that the period of commencement of this function in the human female is determined by that of the accession of those changes and developments in her person and constitution which are inductive and constituent of her puberty. In some rare instances the first menstrual appearance presents itself at the very commencement of these developments; but more frequently not till after the lapse of several months subsequently. In speaking of the peculiar enlargement of the breasts as an indication of puberty in the adolescent female, Aristotle asserts, that "when these are raised two fingers in breadth, then in most females the menses commence." Aristotle on the Generation of Animals, B. 1, ch. 20. In the native females of temperate climates it was correctly stated above, that the developments in question usually present themselves between the ages of thirteen and fifteen. In all coun-

tries, however, there are considerable varieties as to the date of this period; whilst moreover in most there have been presented extraordinary examples of its precocity. In a communication transmitted by M. de Langlade to M. Verney, and published in *l'Histoire de l'Acad. Roy. des Sciences* for 1708, p. 52, is described an apparently authentic case, which bore a remarkable analogy to one of genuine menstruation, although it presented itself during the earliest years of the infancy of its subject. At the date of the communication, which was little more than four years after the child's birth, she measured three feet and a half in height. All her body was well proportioned to her height, and her breasts and genitals presented the characters of those of a girl of eighteen; so that she appeared perfectly nubile.

There was born at Bernon, in Champagne, in September 1756, a female child which bore at her birth all the external marks of puberty. When only four months old she began to menstruate, and had always done so till the 30th of November 1760, when M. Baillot, a surgeon, residing at Lignères, near Tonnerre, transmitted the account of the case to M. Morand, who communicated it to the Academy. "This child is incommoded on the evening previous to the appearance of the menses. The discharge continues ordinarily for three days: but immediately from the commencement of the catamenial appearance, she recovers her usual health, and in every other respect she appears to enjoy a perfect state of it. There are few examples of a puberty so precocious." *Hist. de l'Acad. Roy. des Sciences* for 1761, p. 59.

A case of puberty at six years of age is reported in the *Annals of the Medical Society of Montpellier* for the year 1808. *Corvisart's Journal*, t. xvi. p. 37: "M. Gaugiran transmitted to the Medical Society of Thoulouse an observation which ought to be known on account of its singularity. That gentleman had occasion to see in the month of June 1810, a young peasant girl in the neighbourhood of Thoulouse, aged five years and three months, who had menstruated regularly since she had been three years of age. Her stature was three feet ten inches and a half. Her complexion was light brown; her eyes were black, and her constitution vigorous. Her canine and incisores teeth had already been renewed, and according to her mother's account her first dentition had been very precocious. The sexual parts were overshadowed by a well-marked growth of soft hair. Her bosom was as large as that part usually is at sixteen or seventeen: but it had not the ordinary firmness and elasticity of that age. On this child experiencing a suspension of her catamenial function, she was affected by the ordinary symptoms of chlorosis." M. Gaugiran, under the peculiar circumstances of her case, treated her as is usual in that malady. The catamenia were restored, and her health was completely re-established. *Corvisart's Journal*, vol. xxi. p. 76. Mauriceau quotes a case, t. ii. obs. 392, p. 325, of a young woman, "who had her menses at the age of nine years, and once a year for three years subsequently; after which they came regularly every month."

In the *Transactions of the Royal Society of Copenhagen*, t. iv. p. 44, we have

the details of a case communicated by Mr. Ranoe, of a young girl who became the subject of menstruation at the age of three years. *Journal Général de Médecine*, t. xl. p. 116. A case of precocious puberty, and of pregnancy and parturition at nine years of age, which is said to have occurred in England, is published in the *German Ephemerides*, dec. 3, an. 2, p. 262. The youthful mother went to her full period, and was delivered, but the event proved fatal to her.

“A child of the illustrious Baron Ruepin, the issue of parents of middle stature, became a menstruous subject when she had scarcely attained her fourth year. The function was regularly performed every month; her features in the mean time exhibiting the characters of a corresponding senescence. In her eighth year she became the subject of great constitutional debility, unaccompanied however by any other evidence of disease; and she resigned her soul to her Creator.” *Ephemerid. Germanic.* dec. 3, an. 7, 8. The scholium to the case gives references to a good many other similar observations. In Sue’s *Essais Historiques*, &c., Paris, 1779, t. ii. p. 344, is published a letter from M. Schmith giving an account of a girl, who at the age of eight years and ten months was delivered of a dead child at the full period of gestation. This young mother had been regular ever since the age of two years, and the parts of generation resembled those of a young woman of seventeen or eighteen.

One of the best reported cases of female precocity is that which was communicated in 1813 by Sir Astley Cooper to the Medico-Chirurgical Society. The same case was published by Dr. Cookson, of Lincoln, in the *London Medical and Physical Journal* for the year 1810, vol. xxv. p. 117. The author prefers the version of Sir Astley Cooper, because its facts are more precise and circumstantial. “Charlotte Mawer, the daughter of a waterman, in Lincoln, aged about four years and a half, had an appearance of catamenia about a year and a half since, and again in the course of four or five months; but for the last two or three periods, nearly at the end of five weeks. The discharge exactly resembled that of most women, except that it was rather of a darker colour. The last period was about the 5th of March 1813, when the girl looked pale, and seemed to have a degree of lassitude about her. The breasts are very full, and as large as most young women’s of twenty years of age. She is very broad over her chest and loins. Her pelvis seems much larger than is ever observed at her age. Her pubis is covered with a white-coloured hair, which began to show itself when she had first the appearance of catamenia. She is quite a little woman as to her appearance, except as to her countenance, which is childish. She is much bigger than a sister, who is two years older. She plays with children of her own age, and does not seem to have any sexual feelings, nor an uncommon degree of modesty. That there might be no mistake with respect to her age, the register of the parish where she was baptized was examined, which specified her being born on the 22d of March 1806 Since the above account of the case of Charlotte Mawer was taken, she has continued to menstruate regularly; but there is now only a space of three weeks between each

period. The discharge is as copious as in most women ; and it generally continues about four days. It is the colour of venous blood, and does not coagulate. She is frequently affected with leucorrhœa in the intervals. The hair has begun to grow in the axillæ ; her countenance has not near so much the childish appearance ; her voice is much rougher ; she has a degree of modesty not formerly noticed, and does not now like to walk in the streets, because some boys have teased her about her appearance. She is four feet and an inch high, is broader across the pelvis than the shoulders ; measuring only fourteen inches and three quarters from one acromion scapulæ to the other, but seventeen inches from the anterior superior spinous process of one ilium to that of the other. Her eldest sister aged about seventeen years has never menstruated, and there is very little fulness in her breasts, though she is in good health. One of her sisters aged ten years and five months is four feet and two inches high, and is not so broad across her pelvis as her shoulders : she measures fourteen inches and a half from one acromion scapulæ to the other, and thirteen inches from the anterior superior spinous process of one ilium to that of the other." *Medico-Chirurgical Transactions*, vol. iv. p. 490. Consult for further references to cases of precocious puberty and menstruation two very learned papers, one by Dr. Alard Hermann Cummen, in the *German Ephemerides*, an. iii. p. 184 ; and the other by Dr. M. V. Bonnet, in the *Annales Cliniques de la Société de Médecine Pratique de Montpellier* for 1819, t. vi. p. 193.

THE DURATION OF THE FUNCTION or the term of years during which the human female is actually liable to the influence and power of the menstrual function is not precisely the same in all women. Something of variety in this respect may readily be supposed and counted upon on the score of the almost endless diversities of circumstances, both physical and moral, to which women are exposed. In this climate, and in ordinary circumstances, as to constitutional health and means and modes of living, the average duration of the term in question is about thirty-one years and a half, usually represented indeed for the sake probably of round numbers, as being thirty years. The author, however, founding his conclusions upon very numerous practical data, entertains no doubt that a greater number of women are subjects of this function during thirty-two years of their lives, than of such as are only subject to it during thirty or even thirty-one years. We have of course in all cases to deduct the years occupied successively by pregnancies and lactations. We have on record many instances, and examples will moreover occur to the recollection of experienced practitioners, of many women who have ceased to menstruate at forty, and even at five or six and thirty years of age, without consequently becoming the subjects of any of the ailments usually imputed to the influence of suppressed menstruation. On the other hand, a considerable number of women continue to menstruate till their forty-seventh, forty-eighth, and forty-ninth years, and a smaller number even to their fiftieth year. The average of these years may indeed be considered as

forming the extreme natural boundary of the function. There are, however, a very few cases recorded of protraction of the power for an indefinite number of years beyond the limits of which nature has thus in ordinary been pleased to impose upon it, and which the author thinks it more respectful to place to the account of her sovereign power and pleasure, than with some writers to deny their existence in the face of much reputable evidence, and to ascribe their actual phenomena, presumed in that case of course to be only simulated, to the presence and influence of some unascertainable malady.

Among the numerous examples of sanguineous uterine discharges sustained by women advanced in life, which he finds recorded, the author does not by any means intend to assert, that an immense majority of them are not really the results of diverse diseases; whilst, on the contrary, he finds it impossible entirely to refuse credit to a certain reduced number of histories of genuine menstruation reported to have presented themselves at very advanced periods of life and even during extreme old age. A few well-attested examples of serotine menstruation will perhaps suffice to shield him against the imputation of a weak and senseless credulity on this subject.

In the Transactions of the French Academy for 1768, p. 49, is recorded the following case of a regular performance of the catamenial function from the age of seventeen to that of ninety-one, subject only to the usual interruptions occasioned by pregnancies and lactations. The case was communicated to the Academy by M. de Peyron de Cheyssiole, a physician; and by M. Bonheure, a surgeon of the district in which the subject of the history resided.

“In the parish of Ailly, in the Electorate of Mauriac, in High Auvergne, there is a female, of the class of peasants, who was born on the 19th of August 1676, and who consequently at present is ninety-one years of age. This very aged female is now subject to the ordinary evacuation of her sex. She is of middle stature, well proportioned, and retains an agreeable physiognomy. She was married at seventeen years of age, and had twelve children, all of whom she suckled. She never had any other ailments than her labours. This state of good health may be equally attributed to her good constitution, and to the frugality of her life; having been fed only with milk, cheese, legumes, and, occasionally, a little bacon, with rye-bread and cakes of buck wheat. She has always discharged the duties of her station, without omitting to observe the fastings enjoyed by the church. Her organs do not appear to be enfeebled. She reads, sews, and works without spectacles, and, with the exception of a little hardness of hearing, she still enjoys all her functions of sense, of memory, and of judgment. In a word, we may place her among the very few persons who have been happily privileged to enjoy the whole of their being during the entire period of the longest career. This advantage may well compensate for the privation of many good things, and of the comforts and consideration incident to a higher station, which, however, almost certainly would have shortened her life, and perverted its enjoyments.” As an appendix to a case of pre-co-

cious puberty, transmitted to the French Academy by M. Langlade, that gentleman availed himself of the same opportunity of referring to a case of serotine menstruation in an old lady aged a hundred and six years. *Hist. de l'Acad. Roy. des Sciences*, for 1708, p. 15. M. Dupin, M.D., of Sever, forwarded to the editors of the *Journal Générale de Médecine*, in 1813, a similar case of the union of serotine menstruation to an unusually protracted life. The subject of the account was Ann Duman, the widow of Dufreche, of the commune of Donsacq. She was a person of a gay and cheerful disposition. She died a victim to an epidemic. She had menstruated up to the period of her death. The facts of the case were attested by M. Dupin, by the woman's daughter, by many of the neighbours, and by M. Baillug, officier de santé. *Journ. Gén. de Méd. &c.*, vol. xlv. p. 348. A woman, who had always lived in the country, and never been affected by any disease, menstruated regularly from the age of seventeen until she was eighty, excepting during the periods of two pregnancies. This extraordinary fact came to the knowledge of M. Malgouyre, of Cordes, during his professional attendance on its subject for a dysentric affection. The patient's statement was corroborated by the concurrent testimony of the husband. *Annales Cliniques de la Société de Méd. Pratique de Montpellier*, tom. v. p. 188. A case of the same kind is referred to as having been communicated by M. Bazeat, and published in the fourth volume, p. 188, of the first series of the same work. The subject of that history, it is added, menstruated regularly until she was eighty-seven years of age, excepting during fourteen pregnancies. In a paper on the commencement and cessation of the catamenial function, communicated by Dr. Simon Schultz to the editors of the *German Miscellanies*, a short notice is given of the case of a labourer's widow, a healthy woman, the mother of five children, and a person accustomed to a laborious life, who menstruated until she arrived at her fifty-ninth year, and probably would have done so for a longer period had she not then fallen a victim to the plague. The same gentleman refers also, with similar brevity, to another case of serotine menstruation, which occurred within his own knowledge, and for the fact of which he accordingly vouches the evidence of his own testimony. The subject of that case had continued to menstruate as long as she lived. She died in her seventieth year. *Ephemerid. Germ.* an. 3, 1672, p. 174. In a paper, published in the same work, for the years 1678 and 1679, obs. 166, p. 365, having for its subject "uterine hæmorrhage salutary in an ultra septuagenarian," the writer, L. Sigismund Grassius, cites the case of a matron of seventy-two, who had regularly menstruated till her fiftieth year, and who, subsequently to her then age of seventy-two, had experienced copious uterine hæmorrhages, "which, however, were not called menses, because they were not periodical; but which had the effect of protecting her from apoplexy, with which she had been threatened, and of keeping her in good health." In a paper communicated by Ehrenfred Hagendorn, a case is reported of an aged female, possessing excellent health,

who experienced a return of her menses in her ninety-second year. She continued to menstruate for two years from that period, and then died. This paper is especially referred to, not because the case just noticed is to be considered a genuine example of serotine menstruation, but rather to give the author an opportunity of stating that the communication abounds with references to cases of the same kind of antecedent dates.

The reader may observe, 1st, That in all the cases of serotine menstruation just referred to, the subjects were hale, vigorous women. 2. That of several of them, it is particularly stated that they began to menstruate at a rather advanced period of their youth: whence it may be inferred, that early menstruation is, ordinarily, an indication of its correlative early cessation of the same function, and vice versâ; "*quod cito fit, cito perit.*" 3. That they all lived in the country, and had been occupied by such active and salubrious duties as usually devolve upon rustics; whilst of one it is especially remarked, that she had lived upon the plainest, not to say the coarsest fare. 4. Of the greatest number, it is positively stated that they menstruated regularly and continuously, subject only to the interruptions imposed by the laws of the function, from their youth to extreme old age. 5. In one instance it is made the subject of an obviously intentional remark, that the patient menstruated regularly until she was fifty; and that remark is followed by a clearly-expressed recognition of the proper distinction between the natural function of menstruation, as performed up to that period, and the losses of blood which had been sustained at irregular times subsequently, and from which the designation of menses was therefore purposely and correctly withheld. 6. The subjects of many of the cases remained possessed of other attributes of the middle and ordinarily menstrual portion of life, in common with the catamenial function, to extreme old age. 7. On the whole, therefore, it seems more easy to suppose that women might live and enjoy vigorous health to an advanced period of life, subject to the condition of a protracted performance of a natural function; of which the regular performance is, indeed, an essential condition to their enjoyment of good health during an earlier age; than that they should survive many years, and enjoy vigorous health subsequently to their becoming the subjects of frequently-occurring hæmorrhages, or, in other words, of a positively diseased state of the uterus, usually attended with extreme danger even to life itself.

OF THE ANALOGIES OF THE MENSTRUAL FUNCTION.—Under this head of subject may be placed three varieties of analogies of the catamenial function; viz. 1st. Certain periodical discharges from non-uterine parts or surfaces sometimes occurring in the human female herself. 2. Periodical discharges of blood from the genitals and from other parts, occasionally experienced by individuals of the other sex. 3. The produce of the sexual œstrum in the females of many species of inferior animals.

The periodical discharges in the human female, from sources remote from

the uterus, have, by reason of their supposed substitution for the unestablished, suppressed, or imperfectly performed catamenial function, received the designation of vicarious menstruation. In the greater number of cases properly referable to such a class of diseased actions, one or other of these forms of disturbance of the menstrual attribute may be usually observed to be either directly or indirectly a cause, or, at least, a very early attendant on the patient's malady. It therefore almost always happens in such cases, that their history, peculiar localities, or some other special and characteristic circumstances incident either to their origin or progress, are of a nature to direct professional attention to the state of the uterus and its functions, as a principal and proximate source of the disorder to be combated. The correctness of this statement will appear pretty obvious, from the perusal of a few examples of the extraordinary disorders in question.

After encountering some disturbance of her menstrual evacuation, a patient, under the professional care of M. Cazenave, became the subject, in two months subsequently, of a tubercular eruption of the surfaces of both her breasts. The apices of these tubercles inflamed and ulcerated, and the ulcers became the seats respectively of a discharge of blood, which continued for a few days. After the lapse of a month, the discharge again returned. In the absence of the menstrual nixus, the affected surfaces subsided into a brownish sub-inflamed appearance. The disease had continued obstinate and unmitigated for two years, when M. Cazenave forwarded his account of it to the editors of the *old French Medical Journal*. *Journal de Med. et Chirurg. &c.*, tom. ii. p. 23.

“A healthy vigorous labouring country girl of ordinary stature strained her right foot at fifteen years of age. She sustained the same accident again at nineteen, when a sordid ulcer broke out on it, which being healed, she complained of a disorder through all her body. AT TWENTY YEARS OF AGE HER MENSTRUUM APPEARED FOR THE FIRST TIME, but in very small quantity. The former disorders still continuing, she was blooded at the vena saphæna of the right foot. Soon after this, an ulcer was formed on the ankle of that foot, which has now continued above five years. The ulcer on the ankle discharged in two or three days of each month as large a quantity of blood as women generally pass during their menstrual evacuations, and this at regular times, without any bleedings during the intermediate period. Some time before this periodical hæmorrhage, she felt great pain in her foot, which ceased at the end of the evacuation. She continued in this way till May 1733, when the ulcer beginning to heal, the menses came the natural way, and the foot did not bleed at all. She had a second natural return of her courses in June; but in July she passed the natural period, and her foot grew more painful. The pain ceased however on the natural return of the menses. Since this time she has continued in good health, with her menses regular in the natural way, without any other evacuation at the ulcer, than that of a small quantity of pus. The ulcer still remains open.” *Edinb. Medical Essays and*

Observations, vol. iii. p. 341. In Corvisart's *Journal de Med. &c.*, tom. xx. p. 231, there is recorded an interesting case of menstruation by the bladder complicated with congenital absence of the vagina. The institution of the means of functional relief by the rout of the bladder was effected by a surgical operation. The case can therefore be scarcely considered as one of vicarious menstruation in the ordinary sense of the expression. The same journal, t. xxvi, p. 329, records the case of another female, who, in consequence of a miscarriage, was the subject, for five years subsequently, of a menstrual periodical hæmorrhage from her right ear. For some days before the discharge came on she suffered acute pains of that organ.

“ A girl menstruated for the first time at the age of fifteen, but was suppressed some hours after the commencement of the evacuation from the effect of a great fright. No accident immediately resulted from this occurrence: but at the end of three weeks a tumour appeared on the right side of the chest, intermediately between the fifth and sixth ribs. The tumour thus formed terminated in an abscess which furnished a discharge of laudable pus. On the day subsequent to the bursting of the abscess, a discharge of blood supervened, which continued for five days. The sanguineous discharge has since presented itself every month, the catamenia in the meantime having been totally suspended. During the patient's pregnancy, which took place in her twenty-third year, the vicarious discharge stopped. She has enjoyed good health since that time. Another woman, who never menstruated regularly, experienced at sixteen a slight hæmorrhage from the left nostril, which, though slight, was nevertheless continuous for three days, when it suddenly ceased. Since that period the bleeding at the nose constantly returned every month, excepting during the patient's pregnancies. It ceased when the subject arrived at the age of forty-two. She has been pregnant fourteen times, and upon the whole has enjoyed good health.” Extracted from a *Bulletin of the Med. Society of the Department of the Eure. Journal Générale de Méd. &c.*, tom. lxxviii. p. 96. “ A woman aged forty-one, was the subject for eight years of a periodical discharge of blood from the anus. It originally appeared soon after her first gestation; but was removed by the use of medicines. It however returned after another pregnancy, and had then the effect of greatly reducing her strength. It was treated by chalybeate and anticachectic medicines, which produced some relief. But it terminated fatally in the course of the following year.” Communicated by Dr. Geo. Wolfs. *Wedel. Ephemerid. Germanic. for 1672*, p. 41. An unmarried female had been the subject from her birth of a double-cysted abscess of her left knee. She had however menstruated at the proper time, and regularly. But at the age of eighteen her menses became suppressed. She for some time afterwards sustained a periodical sanguineous discharge from her diseased knee. This state of things proved inductive of an obstinate diarrhea, attended by extreme languor and prostration of strength, which eventually proved fatal to her. *Ephem. Germ. an. 4 et 5, 1763-4*, p. 63. In the same work for 1683, p. 254,

is recorded a case of an unmarried female of one-and-twenty years of age, and of a plethoric habit, who was the subject of a periodical hæmatemesis. The notice of it concludes with the statement, that “she was cured by proper medicines.” See also a case of periodical hæmorrhage from an ulcer of the tibia in the same work. Decad. 2. an. 5, p. 184.

Examples are recorded of young and unmarried women variously circumstanced as to health, but of virtuous life and conversation, who have been the subjects of a periodical and supposed VICARIOUS SECRETION OF MILK by one or both breasts. But inasmuch as cases of this kind, to say the least of them, are liable to the suspicion of being both ignorantly and knowingly ascribed to wrong causes, it would seem scarcely necessary more particularly to refer to them.

An unmarried female, the servant of a beneficed ecclesiastic, became the subject of suppressed menstruation. She was soon after attacked by a swelling and inflammation of both breasts, which ended in ulceration. After a certain time, not specified, the ulcers dried up and formed scabs, which rapidly matured and soon fell off. This process was repeated every month for the space of about a twelvemonth, when she was placed under the professional care of the learned reporter of the case. By the use of purgatives, repeated bleedings, and of such other remedies as were supposed at the time to be emmenagogues, the catamenial function was happily re-established. Communicated by Dr. M. Fribe, *Ephem. Germanic.* for 1673-4, p. 37. Ronsseus reports the case of a woman of Furnes, who in consequence of the extraction of one of her molar teeth, experienced a suppression of her catamenia. She subsequently became the subject of a discharge of blood from the emptied socket, which returned once a month with all the regularity of the menstrual function. Raymond likewise quotes a case of periodical hæmorrhage from the socket of a molar tooth which the patient had lost. The subject of this latter case was forty-eight years of age, and had actually ceased to menstruate. Nevertheless, the hæmorrhage observed a monthly period, and each evacuation lasted three or four days, the quantity of blood furnished by each day's discharge amounting to about three ounces. Desormaux. *Dict. de Méd.* tom. xiv. p. 201.

Among the numerous varieties of vicarious or supplemental hæmorrhages now under consideration, and there is not one natural opening nor a mucous membrane, nor scarcely a point of surface of the body, which have not furnished outlets for them, those which have had mucous tissues for their sources have usually been represented as the most frequent. Stahl was of opinion that hæmatemesis and hæmorrhoids present themselves vicariously in the absence of the catamenial function more frequently than hæmoptysis. If the author might determine this point by the number of each variety, which he has encountered in his own practice, whether public or private, he would say that, both in London and in Yorkshire, the examples of the latter exceed those of the former in nearly the proportion of two to one. It seems probable that the celebrated Professor

of Halle may have allowed his mind to be somewhat warped on this subject by the great importance which he attached to the influence of the vena portæ in the production both of the menstrual evacuation and of vicarious hæmorrhoids. These latter discharges are indeed sometimes as abundant and as regularly periodical as those of the catamenial function itself. But more frequently they are less abundant or less regular, and in a very great majority of cases they are both less regular and less abundant than those of menstruation. Next in frequency to the pulmonary and gastric hæmorrhages, including under the latter those both from the stomach and the larger intestines, we perhaps encounter that from the bladder or hæmaturia. It is probable that this variety has often occurred without being detected, on account of the proximity and almost identity of the extreme outlets respectively from the bladder and the uterus.

In delicate and strumous subjects, congestive and vicarious determinations are usually observed most frequently to affect the mammæ; these organs being very liable in them to injuries of texture from careless management during lactation, and even from slight accidents, and thus to be rendered peculiarly predisposed to become the subject tissues of such determinations. Supplemental hæmorrhages from ulcerated nipples or other parts of the breasts, are therefore much more frequent accompaniments of suppressed than of non-established menstruation. It seems also not unreasonable to believe that they are more frequently affections of poor and laborious women, who are liable to greater exposures during the menstrual period than of ladies in easy circumstances, who have an unlimited command of the means of comfort and protection.

In the greater number of vicarious hæmorrhages, the prognosis may be considered upon the whole as favourable. When the form of the discharge is analogous to the action of transudation, and its source a mucous membrane like those of the rectum and the bladder, it is obvious that its periodical recurrence may be sustained for many years, without greatly endangering the life of its subject. Even hæmoptysis, when established as a substitute for menstruation, has been known to co-exist with retention of the catamenia for upwards of twenty years, without being accompanied by the alarming symptoms too frequently incident to the same affection under other circumstances.

It sometimes happens that vicarious hæmorrhages become unnecessary in consequence of the establishment or restoration of the natural function. To promote that indication should indeed be the great aim and object of our art in the professional management of such cases. In recent and scarcely yet established cases, we may sometimes succeed in the attainment of that object. We shall however more frequently accomplish it when the patient is young and well balanced as to her other functions, than when advancing towards middle age, or when reduced in constitutional strength by the duties and anxieties of life. In the later case, on the other hand, we may generally have the satisfaction of anticipating that, at the ordinary period of the final cessation of the menses in other women, nature will most probably come to our assistance, withdraw her

counter influences, or perhaps accomplish for herself all that may be desirable or necessary in behalf of our patient, even without our aid.

It being upon the whole the fact that vicarious hæmorrhages are usually much less dangerous than corresponding hæmorrhages from other causes, and that they are often to be regarded more in the light of annoyances and inconveniences, than as formidable and dangerous maladies, it obviously follows that their removal should not be attempted by powerfully repressing means suddenly and unskilfully administered. Their sudden suppression has occasionally been productive of the most fatal consequences. For curious examples of vicarious menstruation and still more curious speculations on the subject, the reader may consult the following authorities: Marcelli Donati *Hist. Med.* lib. 4, cap. 19. Schenkii, lib. vi. obs. de menstr. p. m. 680, et sequent. Amati Lusitan, cent. 2, cur. 17. Ant. Beneveni, c. 41. Fabric. Hildani, cent. 3, obs. 12. Greg. Horstii, part 2, obs. 33. B. Timæi *Observ. Medic.* lib. 4, c. 12. Hoffman. *Disquisit. Pathol.* p. 230. Hippocrat. *Aphor.* 33. Cels. lib. 2, c. 8. Bartholin, cent. 1, hist. 16. Harder. *Apiar.* obs. 82. Sal. Alberti de sudore cruento. Dodonæi *Hist. vitis vinique*, p. 110. Linder. *Act. Lit. Suec.* an. 1723, p. 432. Helwig. obs. 140. Blancaard. *Collect.* 1, n. 49. Valisner. *Oper.* p. 305. Aretæi, lib. 2, c. 2. Borelli *Hist.* 48, cent. 1. Ruysch. *Advers.* 3, n. 3. Meibom. de mot. sang. p. 72. Malpigh. *cons.* 40. Stahl. de insolit. mens. viis. Raulins. p. 148. Kerkring. obs. 85. Muralt. *Chirurg. geschichte*, p. 74, n. 13. Heuremann. *Oper. Chir.* tom. iii. p. 234. Bordeu, p. 189, 469. Kerkring. *observ.* 85. Zacuti *Praxis, Med. Admirabilis*, lib. 2, obs. 101. G. v. Swieten. tom. iv. p. 426, 427. Salmuth. cent. 3, obs. 36. Schurig. *Hæmatolog.* p. 256, 257. Schwenck. *Hæmatolog.* p. 130.

It has often been remarked by writers on hæmatology, that periodical determinations of blood to diverse organs and hæmorrhages from different outlets of the body, are phenomena which are by no means peculiar to women; but that men also, although much less frequently, are nevertheless occasionally subject to them. This forms the second example of analogy, as above referred to the menstrual function, as it presents itself naturally in the human female. In this case it obviously amounts only to a morbid simulation of some only of the attributes of that function. For the purposes of growth and of the development of parts, it is to be presumed that all young subjects, not yet arrived at their destined complement of stature and maturity, are in one sense the subjects of a plethoric state of their sanguiferous system. Subserviently to these purposes, we may observe that the powers of assimilation and nutrition are accordingly more vigorous in young people of both sexes than in persons of middle or advanced age. To supply the wants of the former class of subjects, provision is required to be made not only for their mere subsistence, but likewise for their daily increasing stature, augmented capacities of expenditure, and for developments of all kinds. When we arrive at the perfect maturity of our organization, it is naturally to be expected that a pretty equal balance would be struck between the vital operations

necessary to furnish new supplies and those incident to the expenditure of such supplies upon the sustenance exclusively of the living body, then of course presumed to be quite finished and completed in all its parts. It may indeed be admitted that such is probably the fact as a general principle, founded upon a broad average view of the universal history of our species. Experience, however, informs us that it by no means is absolutely so in its application to individual persons and to all classes and communities of mankind. We find on the contrary, that under many varieties of circumstances inseparable from the ordinary influences of civilization, however factitious many of those influences may be allowed to be, that there are numerous exceptions to what perhaps there might be no great difficulty in acknowledging to be a pretty general rule of nature in this respect. Individual examples therefore of sanguineous overfulness in persons of both sexes and almost of all ages, are familiar occurrences in the practice of extensively occupied medical practitioners. Moreover, to support a perfect balance of all the actions of the living body, would be to suppose an equally perfect conformation of all its parts, an absolute harmony of all its possible movements, founded upon the perfect and equal competency of every organ and of every fibre in each organ, to perform in the best manner and always to continue so to perform their allotted functions; which would be a supposition totally at variance with all experience. With these more general views, let the reader, if he pleases, connect some of the inferences which of late years have been drawn from the discoveries of general anatomy and physiology, as to the probable pathological results of original varieties of construction and of consecutive developments of different parts of the human body. Add to all these considerations the unknown and therefore incalculable influences of hereditary predispositions, founded as most probably they are in most cases upon hereditary imperfections of conformation, as also the diseases both of function and structure of certain organs which supervene during life's progress, no matter from whatever cause, and we shall have no great difficulty in accounting for the existence of the sanguineous congestions and hæmorrhages which we occasionally encounter as well in male as in female subjects. The periodicity which has distinguished many of these hæmorrhages in man, may indeed be considered as somewhat remarkable. It is probable that the descriptions which we find recorded of some of them, may be on this point a little exaggerated. However that may be, there is no disputing, and there can be no reasonable motive for disputing, the general fact. From the comparative paucity of records of cases of this description, we may conclude that they are not of very frequent occurrence. For that reason, and also because we are only incidentally interested in the subject, our examples of them must be very limited in number.

A circumstantially narrated case of this kind may be found inserted in the old *Journal de Médecine* of Paris, tom. xxiii. p. 49. The form of the hæmorrhage was that of epistaxis. The bleeding of the nose first occurred when the subject of the history was sixteen years of age; and it continued to return once a month

regularly until he arrived at that of thirty-eight. The hæmorrhage was always preceded by diverse painful and disagreeable symptoms, analogous to those which often precede the eruption of the menses in women; such as giddiness, lassitudes, and unsupportable melancholy. Those symptoms were “surprisingly” relieved by the appearance of the discharge. Upon inquiry, the reporter of the case was informed by the patient, that his mother was a plethoric woman, and had been subject to a similar evacuation, which had sometimes been profuse even to fainting; AT THE SAME TIME THAT SHE PERFORMED REGULARLY AND HEALTHILY HER NATURAL FUNCTION OF MENSTRUATION.

“Jaques Sola, a miller’s man, residing in the neighbourhood of Perpignan, of a good constitution and sanguine temperament, aged twenty-five, was subject from the age of fifteen or sixteen to a discharge of blood from the end of the little-finger of the right-hand, which returned every month almost on the same day. It flowed by drops during two days without any perceptible aperture in the skin. In the intervals between the evacuations the young man’s health experienced no change, and he prosecuted his labours without interruption. An infallible symptom of the approach of the evacuation was a headache, which at first was slight, but which gradually increased until the blood made its appearance; when it again as gradually diminished, until it ceased altogether. This remarkable case of hæmorrhage was accompanied by a slight numbness of the right arm, which however ceased with the cessation of the discharge. When the discharge was less than common, the diminution was attended with severe pains in the head, and with much painful numbness and tingling in the arm; which latter however were removed by applying warm water to the arm for an hour. When the discharge was from any accident stopped, disorders arose which again disappeared on its return. *Hist. de la Société Royale de Médecine* for 1780-1, p. 287. A rather brief notice of a similar case is recorded in the *Philosophical Transactions*: see Jones’ *Abridgment* for 1720, vol. v. p. 356. This case was communicated to the society by Dr. Musgrave. It was that of a young man who had a periodical discharge of blood from his left thumb. If the discharge from any cause became suppressed, it is stated that its subject was visited with various ailments.

“John Péroche, of the Commune de Bonat, Arrondissement de Gueret, a conscript of 1814, has been subject since he was fifteen years of age to a periodical and regular hæmorrhage from the penis. It returned between the twenty-fifth and thirtieth day of every month, and lasted three or four days. This young person is of a spare habit and delicate constitution. His conformation approaches a little in character to that of a female. His thighs are situated relatively to each other rather distantly. His pelvis is also broadish, and his chest something narrower than is common to his sex.” *Corvisart’s Journal de Médecine*, &c., vol. xxvi. p. 329.

In Reid and Gray’s *Abridgment of the Philosophical Transactions* for the year 1732, a case, also briefly sketched, is given of hæmorrhage from the penis. The

patient was bled in the arm, and the period was retarded for eight days; while subsequently to that occasion, viz. that of the period so protracted by the bleeding, there was no return of the discharge. Another case of hæmorrhage from the urethra is reported by Dr. Franci, and communicated by Dr. Houst to the German Miscellany, dec. 2, an. 6, p. 174. The principal feature of that case was, that a butcher being the subject of it, the common people when they came to know his unfortunate predicament would not buy meat of him. It is a well-known fact, and of sufficient curiosity to be noticed in this place, that a notion very generally prevails among the lower order of women in England, that meat cannot be salted by a menstruating woman.

The most frequent varieties of hæmorrhage in the male subject, are incomparably those from the nose and from the rectum; from the nose in young subjects, correspondently with the description given of them by Cullen, *Practice of Physic*, vol. ii. p. 305—364, and from the hæmorrhoidal veins in older men.

The author has himself met with two cases of epistaxis in men, of whom one was two or three and thirty years of age, and the other about nineteen. The hæmorrhage in both cases assumed in some degree a periodical type. In the former case, about eight, perhaps ten ounces of blood was furnished by each period. The discharge was not however continuous; but was sudden and profuse for ten minutes or a quarter of an hour, returning generally once, sometimes twice in twenty-four hours during a period of three or four days, and then totally disappearing for three, four, and sometimes five weeks. The patient in this case was an officer in a militia regiment which was accustomed to the use of a sumptuous mess. He had freely indulged in the pleasures of the table for several years. He moreover stated that, about five years before the author was consulted, he had been the subject of a slight syphilitic affection of the more nasal part of his palate; since which time he considered that his hæmorrhages had been more considerable in quantity, and more regular in their occurrence. He had been subject to the disease some two or three years previously. The case yielded to the use of mercury carried to a slight salivation, which was kept up for about three months, together with an absence from the regiment for seventeen weeks, and an exclusively vegetable diet, without wine or spirituous or fermented liquors of any kind for a twelvemonth. The subject of the case is now living, and is a hale portly gentleman of about sixty years of age. He is said to hunt a great deal, but to eat and drink sparingly. The subject of the other case was a clerk to an attorney, whose conformation of head, which was of extraordinary magnitude, might have probably predisposed him to epistaxis. He had however suffered from a periodical hæmorrhage from his nose in profuse quantities from the age of fifteen. Every period was preceded by much pain of the head and giddiness, and especially by a most distressing pain of the left ear, which however never suppurated, nor furnished any other kind of discharge. The ordinary intervals between the periods in this case were nearly monthly, and they scarcely ever exceeded five weeks. The pain of the

ear, which also extended to the side of the face and to the left eyebrow, appeared, from its occasional alternations of remission and of paroxysms of extreme intensity, to present a striking analogy to that of neuralgia or tic doloieux. On discovering the presence of a deep-seated and almost invisible portion of the stump of a molar tooth in the left upper jaw, it was further ascertained that the greater part of the patient's miseries, including his periodical hæmorrhages, had actually existed from about the time when it had been attempted to remove the tooth. This circumstance could of course not fail to furnish an indication for immediately effecting the extraction of the remaining and supposed offending stump, as well as of every other stump or tooth in either jaw, exhibiting any considerable degree of disease. That part of the treatment was exceedingly well administered by Mr. Bott of Nottingham. In this case there was an obvious absence of a plethoric condition of the system. Artificial bleeding was therefore neither indicated nor admissible. The blood which, it should be remarked, always escaped exclusively from the left nostril was thin and poor, and the patient was pale and long-visaged, and upon the whole low in strength, flesh, and appetite. His tongue exhibited the appearance of that of a cachectic resident of London; although he had lived all his life in a small country town, and one of the healthiest towns in England. Under these circumstances it was determined, immediately after the removal of his stumps and decayed teeth, to effect a thorough cleansing of his gastric surfaces, and then to put him upon the use of bark and chalybeate medicines in full doses, occasionally combining or interposing aperients, as the case might seem to indicate. Subsequently to the adoption of these measures, the hæmorrhage occurred twice in greatly-reduced quantities; but without being accompanied by any pain whatever, either of the ear or of the side of the face and forehead. In the mean time the patient recovered both flesh and strength rapidly, and in three months was entirely free from the annoyance, tortures, and profound anxieties of a disease, which without the powerful assistance of dental surgery would, in all probability, at no distant period, have proved fatal to him. Some very curious cases of periodical hæmorrhages in male subjects, principally however distinguished by diversities of sources and other unessential circumstances, are recorded by the older writers. The following are references to some of the most interesting of them: Marc. Donatus de Hist. Medic. Mirabil. p. 411. Mich. Scot. Physiogn. cap. x. D. Martin Schurig. Parthenolog. et Cons. l. xxiv. p. 195. Gisbert. Voetii Disp. Select. part. 2, p. 53. Ephem. Germanic. dec. 1, an. 2, observ. 192, et an. 4, observ. 44 et 69, dec. 11, an. 1, observ. 70. Th. Bartholin. cent v. hist. 33. Zacuti Prax. Medic. Mirabil. observ. p. 110. Reyes in Camp. Elys. Jucund. Quæst. xlvii. n. 16. Dodonæi Hist. Vitis Vinique, p. 109. Beniven. de Abditis, &c., c. iv. Ephem. Natur. Curios. tom. viii. obs. 176.

Of the THIRD ANALOGY to the menstrual function above adverted to, it is not necessary at present more than simply to notice the fact of its existence, although it must be acknowledged to be very slight. Such, however, as it is, it

will necessarily offer itself to our consideration when we shall have to speak of the final cause of the catamenial function. It is indeed by reason almost exclusively of a supposed identity of their final cause, that any analogy between the sexual œstrum of the lower animal, and the menstrual evacuation of the human female, can with any plausibility be contended for or admitted. The female of no inferior animal, whether quadruped as mentioned by Aristotle, *Generation of Animals*, B. 1, ch. 20, p. 230, Taylor's edition, or even of the ape species, notwithstanding the strong statements to that effect of some careless and mendacious writers, can be said to menstruate, in the proper sense of the expression, "after the manner of women."

OF THE PERIODICITY OF THE CATAMENIAL FUNCTION.—The very name of menses, in common with several other designations, which have been given both in and out of our profession to the catamenial function, are so many intimations that IT RETURNS PERIODICALLY EVERY MONTH. Some differences of opinion have arisen as to the actual duration of the menstrual month; some believing it to be identified in duration with a month of four weeks or twenty-eight days, which is nearly the measure of a lunar month, and others that it is a month of thirty days, which is a nearer approximation to the duration of a solar month. It is the impression of most of the women of this country that the catamenial month is a month of four weeks. Among the nations on some parts of the coast of Africa, the menstrual periods are called the moons. Many physicians and philosophers have considered the influence of the moon as actually the cause as well as a measure of the periodicity of the function.

Haller considers the period as being equal to a solar month. In his general account of the phenomena of this function, that eminent writer observes, that "after the first menstrual evacuation, the young subject often experiences an interval of some months before another period succeeds; but that gradually the time to be occupied by it is reduced to a solar month; so that a female who should have her menses on the first day of May in a given year, shall again on the first of May for many successive years experience the return of them: seven or eight days being occupied by the discharge, there are two or three and twenty of an interval of freedom from it; and thus is the menstrual period absolved." Haller. *Element. Physiolog.* tom. vii. lib. xxviii. § 4, p. 145.

It was the decided opinion of Dr. Denman, who had paid considerable attention to the subject, that the average period of menstruation is that of a lunar month. The same was the opinion of the late Dr. Sims, than whom perhaps no physician of any age formed his opinions more independently of the authority of others.

It is a statement of M. Desormaux, *Dict. de Med.* tom. xiv. p. 181, that he has known many ladies who noted in their almanack each return of their menses, and that their returns coincided with the corresponding days of solar months: it is, however, to be observed, says the writer, that in the instance of a

great number of these returns, they anticipate the solar month by two or three days, which therefore reduces the period very nearly to an equality with a lunar month. But we often see other and more considerable anticipations of the natural period. There are, indeed, many women who are in the habit of experiencing the returns of their menses after intervals of from four-and-twenty to twenty days; and there are even some who menstruate twice a month. In one case of that kind, the discharge was abundant during eight days of each period. With other females, on the contrary, the duration of the menstrual period has been known to exceed thirty days, and even six weeks and two months. Linnæus reports, *Floræ Lapponicæ*, p. 324, that he saw some women in Lapland who menstruated only once a year. M. Desormaux, already quoted on this subject, notices the opinion of a physiologist, whom he does not name, that menstruating women are distributed into two classes; of whom the one class menstruate during the first eight days of each month, and the other perform the function during the first eight days of the latter half of the month. The author thinks that he is enabled from the results of his own observations and inquiries, to state positively that this notion is not in correspondence with the actual facts of the function. On the other hand, he perfectly believes that women menstruate quite indifferently as to dates or portions of months, whether solar or lunar, and quite independently of all artificial divisions of time, as well as of any supposed planetary influences with which the function may have been theoretically connected. It should be observed, that when the time or term of a woman's menstruation has been perfectly established; whether it exceed or fall short of the time usually allotted to the period, or whether it be in correspondence with the ordinary duration of that period, it very seldom happens that it sustains any change, or even that it is capable of being changed by any interference of art. It is obviously therefore of great moment to the future interests of the subject, that its type shall be of the natural or most desirable duration from its commencement, or, at least, from the date of its perfect establishment. When once established, it usually continues to observe its adopted type during the whole of the menstrual life of its subject, excepting indeed during the natural interruptions which it has to sustain from the influences of gestation and lactation. These two functions are ordinarily but unequally causes of its suspension. The author believes that, with respect to the former, its influence is universal and without exception. He is well aware of the existence of many asserted and recorded exceptions to this principle. Mauriceau, tom. ii. observ. 388, p. 322; observ. 378, p. 314; Append. observ. 19, p. 13. *Ephem. Germanic. an. 3, 1672*, p. 555. *Perfect's Cases in Midwifery*, vol. ii., case 80, p. 71. *Comment. Bononiens. Institut. Scient. &c. vol. i. p. 152*. The author is also aware of statements, that cases have occurred of menstruation presenting itself FOR THE FIRST TIME AFTER CONCEPTION, and of others in which it occurred regularly during successive gestations and at no other times. With all those facts distinctly in his view, he is nevertheless decidedly of opinion

THAT GENUINE MENSTRUATION HAS REALLY NEVER EXISTED DURING GESTATION. It will be seen in the sequel of this article, that the same organic structure which nature employs to effect the elimination of the catamenial secretion during the unimpregnated state of the uterus, is employed by her, during the earlier part of gestation, to secrete a fabric essential to the new function in which she has become engaged, and that the vessels so concerned become so intimately connected with the fabric in question, as not to be at liberty to furnish the material of the menstrual discharge, which, nevertheless, it is their peculiar office to secrete and to supply in the unimpregnated state of the organ.

It is, moreover, known that the orifice of the womb is hermetically sealed during gestation; in consequence of which, no description of fluid, whether the produce of the menstrual function or any other, can by any possibility escape out of its cavity without the previous disturbance of the strongly adhesive plug, by means of which nature has closed up its orifice. To persons who are familiarly acquainted with the nature of the security which is thus given to the contents of that organ, it is scarcely necessary to insist on the incompatibleness of such a state of things with the probability or even the possibility of the performance, in any form, of the natural and proper function of menstruation during pregnancy. Chemistry not having yet satisfactorily determined the elementary constituency of the menstrual secretion, it may not at present be easy to demonstrate analytically that the sanguineous discharges which it is allowed do sometimes escape from the genital passages during gestation, are not identifiable with the produce of the catamenial function. Nevertheless, the phenomena incident to those discharges, are often decisive of their being the unquestionable results of structural solutions of continuity. In a very great proportion of cases they are followed by the premature expulsion of the ovum; a fact in proof of their real nature being non-menstrual and sanguineous of no little weight. With regard to the few cases which are on record of such visitations presenting themselves periodically during gestation, it is obvious to remark, that they may proceed, and that they probably and almost certainly do proceed, from extra-uterine sources, sources at all events situated externally to the uterine cavity, the mucous lining of which it is all but demonstrable forms the secerning organ of the genuine menstrual secretion. The periodical occurrence of such discharges, and the fact of their occurrence in their actual form which is willingly admitted, are surely no sufficient proofs of their being truly menstuous. It has been already seen that individuals of the male sex have been occasionally the subjects of periodical discharges of blood from their genitals. Moreover, that such adventitious discharges should occur, especially during pregnancy, and in less quantity or not at all at other times, may be readily accounted for from the fact that pregnancy is a state of uterine plethora; and not indeed of uterine plethora only; but of more than ordinary fulness of all the organs situated within and in the immediate neighbourhood of the pelvis; or, in other words, of all the sur-

faces and tissues, including most especially those of the vagina, that are supplied with blood from ramifications of arteries derived from the same common trunk with those of the womb itself.

If the uterine branches of the internal iliacs be in a state of extraordinary fullness and development during gestation, is it not to be expected, nay is not the fact obvious and undeniable, that its great sister branches, the vaginal arteries, should also sustain if not an equal at least a very great enlargement of their capacity? It has been already seen how numerous are the inosculations of the several branches of the uterine epigastric arteries. Certain channels from a general reservoir being obstructed and securely made up, is it not perfectly intelligible, how other channels not similarly guarded may be made the subjects of new determinations and of unusual pressure of momentum, so as occasionally to be forced to yield to the extraordinary impetus made against them, and thus become the seats of transudations and floodings of similar character, and perhaps of not inferior importance to those of their contiguous and more considerable channels before the date of their supposed security? Such in fact is the explanation of the sanguineous discharges, at least when actually periodical, which take place during pregnancy. The natural outlet of the uterus is made up and fortified. No discharges can therefore take place from the arteries which administer to the operations carrying on within its cavity, without a violent removal of the flood-gate or plug, which nature has thrown across the narrow passage out of it. That result not taking place, THE VAGINAL BRANCHES OF THE UTERINE ARTERIES become the subjects of more than ordinary development and congestive determination. Terminating by minute and delicate ramules in a structure of nearly equal delicacy with that of the fine tissue which lines the interior surface of the uterus, and which in point of fact furnishes in the absence of gestation the subject material of the catamenial function, they become more than ordinarily developed and distended, competent in some degree to simulate the action of the menstrual apparatus of that organ. The sanguineous discharges from the genitals are therefore probably of two kinds, of which neither can be considered as properly menstrual. One may have its source from the interior of the uterus, and by being preceded by the disturbance or removal of the protecting plug, may furnish an example of an alarming hæmorrhage, and especially at an advanced period of pregnancy prove absolutely fatal both to mother and child: whilst the other, agreeably to the explanation just given, would have for its source the ultimate ramules of the arteries supplying the vaginal portion of the uterus, and the superior parts of the vagina, which could scarcely be expected to yield blood in any great quantities. The latter hæmorrhage, like many other hæmorrhages, not immediately depending upon gestation, might be made subject to the ordinary laws of a regular periodicity. At all events it is not likely that it would prove seriously injurious to the interests either of mother or child.

The coexistence of the menstrual function with LACTATION is by no means

an extraordinary occurrence. On the contrary, every member of our profession practising midwifery is constantly meeting with examples of it. The women who are more frequently the subjects of it, are those who are most susceptible of impregnation; the susceptibility in these cases being so great that impregnation takes place notwithstanding the presence of the counteracting influence incident to the performance of the sister function of lactation. The same class may also be observed to be more than usually prolific. They produce their children in quick succession, and are therefore of course competent to give birth to a greater number whilst the power of reproduction and its attendant appetencies are vigorous. In the absence, however, of any extraordinary susceptibility of conception, impregnation will frequently occur during suckling, if the period of that duty be UNREASONABLY PROTRACTED. It is not uncommon for some females in dependent circumstances and even for some others, who may be more prudent than poor, to calculate on the operation of the general law of nature in these matters, and to persist in suckling their children for very protracted periods with a view to prevent or at least to diminish the chance of another impregnation. It is, however, pretty well known how frequently these dexterous expedients are defeated. Women living well, and doing little or nothing in the way of bodily exercise, and more still especially if in a situation to practise abstinence as to the means of impregnation, are exceedingly liable to become the subjects of menstruation during suckling. Hired wet-nurses are remarkable examples of this fact. It is probable that the coexistence of the two functions is more frequent in certain temperaments, families, and classes of women, than in others. The author is disposed to think that the hale, joyous, and often laborious women, who are so numerous imported into this country from the Sister Island, experience the return of their menses during suckling more frequently than individuals of corresponding classes of English women. Other things being equal, the combination of the two functions is moreover more likely to happen during the earlier years of the menstruating portion of a woman's life than at a more advanced period of it. It is not an uncommon notion that the capacity for lactation is improved by the supervention of menstruation; the milk being supposed to be FRESHENED by every recurrent period of the latter function. This notion, which may be very well calculated to promote interested purposes, is not only not well founded but directly the reverse of the truth. The accession of lactation whilst suckling is seldom ever known to fail to produce a tumult in the gastric functions of the child.

OF THE SOURCE OF THE CATAMENIAL FUNCTION.—The source of the subject material of this function, it has always of course been known, is a produce of some part of the internal genitals. It having been observed, that the human female was occasionally subject to sanguineous discharges in INCONSIDERABLE quantities during gestation, it appeared not unreasonable to ascribe a

qualification for the performance of the function indifferently both to the uterus and to the vagina; whilst some writers of no mean celebrity have maintained, that it is furnished exclusively by the vagina. It has not been till of late years that its origin from the interior of the uterus has been positively ascertained. In cases of prolapsion of that organ, numerous opportunities during the present and latter part of the last century have occurred, and been made available, by men of perfect competence to determine the matter at issue: and the result of these opportunities has been the decisive establishment of the fact, that the uterus is the source of the healthy and proper sexual secretion. In the dissection of women who have died suddenly or otherwise during the presence of menstruation, it has been repeatedly observed, that the fine villous tissue of the interior of the body of the uterus has been strongly charged with the scarlet colour material of the secretion; whilst any portion of the same fluid which might be seen to soil the natural complexion of the vaginal surfaces could be easily and perfectly removed by the gentlest wiping. In some cases of congenital absence of communication between the uterus and the vagina, the catamenial fluid has been secreted at the proper age; but by reason of the mechanical impediment to its escape by the natural passages, it has been retained within the uterine cavity, until artificial means have been had recourse to for giving it an outlet. When such cases have presented themselves and been neglected or misunderstood, the accumulations of the repeated monthly products of the function have occasionally become prodigious. When globular or tubular pessaries have been employed without the intention of having them removed during menstruation, it is always a precaution made use of in their introduction, that one end of the tube, or a part communicating with the interior of the instrument, should be so applied as to correspond with the uterine aperture. The menstrual fluid has consequently distilled into it from the orifice of the uterus, trickled through its tube or interior hollow of whatever form, and been seen to escape at its inferior extremity. In cases of suspected uterine diseases, which have been made the subject of examination with a speculum matricis during the presence of the catamenial discharge, which has of late years been frequently practised both in this country and on the continent, the subject material of the secretion has been distinctly seen to furnish its tiny globules from the interior of the orifice of the uterus. It has been moreover stated, that the menstrual fluid has sometimes presented itself at the abdominal wound consequent on the performance of the Cæsarean operation.

Desormaux. From such facts, notorious and repeatedly observed, it is now nearly the universal opinion that the uterus is the source of the catamenial evacuation. By some writers it is indeed believed, that the vagina is sometimes and in some peculiar cases made a vicarious secreting organ for its elimination. This inference has been deduced from the fact already noticed of the occasional occurrence of a periodical discharge, from the genitals, of a fluid during pregnancy similar to that of menstruation. On the faith due to the evidence of most respectable testimony, it has been admitted that cases of such discharges

have now and then occurred; although it has never happened in the experience of the author to have met with a single example of them. The late estimable Dr. Sims, who was a physician to the Maternity Charity during a period of between forty and fifty years, actually denied their existence, excepting in the form of manifest hæmorrhage. Dr. Denman, chap. v. § 1, makes use of the following unequivocal language: "Some menstruate while they give suck, and others are said to menstruate during pregnancy; but of this I have never met with an example." The precise fact of the dispute will probably remain undetermined until chemistry shall have established a difference, which there is little doubt it will some day accomplish, between the chemical or elementary constituency of the genuine produce of the menstrual function and those of other discharges, whether periodical or otherwise, which are sometimes furnished in such inconsiderable quantities during gestation, as by that circumstance, as well as by a resemblance in general appearance and colour, to have led to the opinion of their functional identity.

Another question which has been agitated by physiologists, is the structural character of the supplying or secerning tissue or part of the organ by which the menstrual secretion is furnished. The uterus consists of several varieties of tissue; as arteries, veins, lymphatics, and glands. Which or how many of these may be employed as functionaries in the production of the catamenial secretion, may perhaps be allowed to be a question of more than simple curiosity. At all events it has been discussed by authors with some industry, if not with corresponding success and ability.

In favour of the hypothesis, that the catamenial evacuation is a produce of the veins of the uterus, the remarkable fact is cited of its obvious analogy to that of hæmorrhoids, which is known to have the hæmorrhoidal veins for its source, and also to that of the lochia, which it is presumed is furnished by some part of the venous tissues of the uterus. Highmor. *Nath. M. D. Corp. Human. Disq. Anatom.* p. 100. Völter's *Hebammenschul*, p. 280. Jenty, *Demonstrat. Uteri*, &c., tab. 6.

It has been professed that the so-called menstiferous veins of the uterus have been seen enlarged in their diameters in women who have died during the catamenial period; as also seen gorged with venous blood in persons known to have been the subjects of suppression of the menses. The orifices of the menstruating vessels, it has been moreover maintained, are broader or more patulent than they could well be expected to be on the supposition of their being terminations of arteries. It was, perhaps, a modification of this theory that suggested the existence of a particular form of structure, set apart for the performance of the menstrual function, consisting of dilated cellular appendices to the veins, but situated intermediately between the veins and the arteries. This suggestion is said to have first occurred to Mr. Thomas Simson, of Edinburgh. *Simson's System of the Womb*, p. 34, 64. Edinb. 1729. The actual fact however of the particular form of structure, assumed by Simson's hypothesis, has

not been proved by the more accurate researches of modern anatomy. One of the best written disquisitions on the subject of the venous sinuses of the uterus being the organ of elimination, both of the menses and the lochia, forms the principal contents of an essay on the anatomy and pathology of that organ by Dr. Abr. Vater, published by Haller, in the fifth volume of his *Disputationes Anatomicae*.

Boerhaave naturally enough recognised in the menstrual secretion a striking illustration of his favourite doctrine of *error loci*; by which the well-informed reader will immediately perceive that he would most readily account for all the phenomena of the menstrual function. In the development of that celebrated doctrine, the menstruating organ would of course at once be identified with the more delicate and minuter portions of the sanguiferous system of the uterus, which in the absence of the menstrual period are employed to transmit only transparent blood, a part of that fluid which at a time long subsequently to the time of Boerhaave, was believed to consist of particles infinitely smaller than those of the red globules. On the accession of the menstrual period the theory supposed that these finer vessels, being indefinitely susceptible of enlargement by an adequately distending force, became sufficiently capacious to admit the red particles, in common with the other elementary ingredients which constituted the extraordinary tides which periodically rushed upon them, and which found their way into them, and eventually worked their passage through them into the interior of the uterus. *Errorem loci esse menses; sanguinem nempe in locum humoris tenuioris succedere, dilatatis sensim vasculis ut sero primum flavo pateant; deinde rubro cruori.* Haller *Element. Physiolog. lib. xxviii. § 7*; Boerhavii *Prælect. Academic. t. v. part 2, p. 59.*

Meibonius once asserted, *Mot. Sang. No. 48*, that he positively saw the capillary outlets of arteries pouring out their menstrual contents, "*menses fundentia*," and that he had been able actually to introduce bristles into them. Assuming the lactiferous ducts to be arteries, their analogy of office to those of the apparatus employed for the elimination of the menses, induced Deidier to conclude that the latter must also consist of arterial tissue. Haller *Element. loc. citat.*

Another example of analogy, viz. that between the phenomena, respectively, of menstruation and those of certain sanguineous discharges from the intestines, which latter, it is said, may be successfully imitated by the forcible injection of thin and suitably coloured fluids into the neighbouring arteries, has been quoted as an argument of considerable weight in favour of the theory which attributes the produce of the catamenial function to the agency of the ultimate arterial ramules of the uterus. It has been moreover stated, that it is much more easy to conceive of such an amount of congestion as might be presumed necessary for the due supply of the menstrual function taking place in the arterial tissues of the uterus than in those of its veins: and it is added, as a final and pretty conclusive argument in support of the same theory, that the structural character and distribution of the arteries in question exhibit so peculiar and striking a

resemblance to the convolutions of glandular tissues in other parts of the body, as to leave no reasonable doubt of their being destined for an analogous office, the functions of which we accordingly find they actually perform. Correspondently with this undisputed fact, it seems to be all but absolutely proved, that the produce of the menstrual function is not a purely sanguineous evacuation, but more strictly a result *sui generis* of a specific secretion. For these reasons, and others of a similarly speculative character, rather than in consequence of an adequate number of minute and conclusive investigations, instituted with a view and well calculated to determine the question, it seems to be the most general opinion of the physiologists of the present day, that the menstrual evacuation is THE PRODUCE OF A SPECIFIC ACTION OF THE ARTERIES OF THE UTERUS.

OF THE EXCITING CAUSE OF MENSTRUATION IN THE HUMAN FEMALE.—Another question incident to the history of the catamenial function, which has been more frequently than successfully agitated by writers on these subjects, is that of the occasional cause of the function. It is a fact, inseparable from its history, that it is an attribute exclusively of the human female. But why it should have been made an exclusive function of one sex, and why in its influence over that sex it should have been so limited in its extension as to affect only one amongst the almost countless species of existing animals, are problems which have not yet been satisfactorily solved. In the absence of facts, we have here also propounded for our consideration a pretty ample choice of ingenious hypotheses.

OF THE INFLUENCE OF THE MOON CONSIDERED AS THE OCCASIONAL CAUSE OF MENSTRUATION.—It has been already seen that an entire revolution of this function occupies upon an average a period of time very nearly, if not precisely, equal to that of a lunar month. It has hence happened that many physicians and naturalists, both of ancient and modern times, have been induced to infer from the fact of so remarkable a coincidence, the production of the one by some inexplicable but scarcely questionable influence of the other. Planetary influence over the persons and interests of the inhabitants of this world, formed, indeed, no inconsiderable part of the creed of Paganism from the earliest ages; whilst even Christianity itself, liable as of course it was, upon its first promulgation, to become tainted by the leaven of previously existing superstitions, has not been able, even to the present day, to divest itself totally of a similar but unessential article of its faith. Hence in some medical writings of a comparatively modern date, we find the existence and types, together with the exacerbations and remissions of many diseases, ascribed to the agency of lunar influence.

To a consideration of these facts, should moreover be added that of the influence or supposed influence of the moon in the production of those extraordinary and periodical determinations of the mighty fluids of the ocean, called tides,

Why should not so prodigious a power be deemed a competent exciting cause of the smaller, but equally periodical tides of the human body? This theory of lunar influence in the production of the phenomena of menstruation is however liable to many and weighty objections. Experimental observations prove that the various relations of the moon to the earth's surface, are attended with no perceptible determinations or changes of situation of fluids when exposed to its action in artificial and graduated tubes. The column of mercury for example, in the barometrical tube, shows no sensibility to any possibly ascribable influence of the moon. Were this influence the actual exciting cause of the menstrual function, its effects would be uniform and universal upon all its subjects resident in the same latitudes, and therefore at the same time precisely similarly exposed to its agency; whereas the fact is, that women are known to menstruate indifferently at all ages of the moon. If, again, we suppose the agency of the moon to be really the cause of the menstrual tide or flux, as it has been called, we should naturally expect that the same position of that body would at least, in its relation to the same woman, be always productive of the same effects, and that no counter influence from any other quarter could ever by any possibility disturb it. But is this the fact? What is the history of the function in this respect? Why no such law prevails. The function, on the contrary, is capable of being disturbed as to the date of its periods by all sorts of influences. A familiar example will at once suffice to illustrate this statement. Suppose then a young and vigorous female, a regularly menstruating subject, to become suddenly suppressed, in consequence of an imprudent exposure to the action of cold; and that this suppression, as frequently happens, should be attended by febrile and otherwise formidable symptoms. In that event, she would probably be induced to apply for the more or less early assistance of the medical attendant of her family. By bleedings, and other active measures, we will further suppose that gentleman to succeed in the restoration of the suspended function; but that that object is not attained till after the lapse of six or eight days subsequently to the suspension. Let it, however, be understood, that the function is eventually perfectly re-established, and the patient perfectly restored to her former state of health. Suppose our patient's constitution to have been at all times most delicately and regularly respondent to the law of the function; that, as in the hypothetical case of Haller, the first appearance of the secretion had always presented itself on the first day of her menstrual month from the commencement of the function to the date of its suppression. On the supposition of the moon being the cause of the function, on what day and in what week of the next, and all subsequent months, should the ordinary appearances of the function present themselves in future? Why surely on the first day of the first week, as in former times. That, however, will not be the case. The date of the next appearance will not correspond with those of its former periods; but with that of its restoration by the well-devised and promptly-applied measures of the medical attendant. This fact, if well

founded, and its accuracy admits of no dispute, is at least a proof positive, that the influence of the moon on the catamenial function, if it at all exist, must be of such a feeble nature as most easily to succumb to the operation of other influences; such other influences being competent not only to counteract and to disturb, but apparently to subvert, and summarily to dispense altogether with any supposed previously-existing influence of the moon. In the same circumstances of the moon, the same also should be those of all women equally and similarly exposed to its influence. But do we observe that such is the fact? Women on the contrary, notwithstanding the uniformity of the supposed influence, are subject to all possible varieties of circumstances as to the duration, dates of commencement and termination, modes of performance of the function, its effects upon other functions, physical and moral, as well as upon the general health of its subjects, the quantity, colour, consistence, sensible qualities, and all other appreciable conditions of the discharge. Aristotle on the generation of animals, B. iv. chap. 2. Galen De dieb. secretor. cap. 11. Ricard Mead, M.D. De Imper. Sol. et Lunæ, etc., Lond. 1746. Stahl. Theoria Medic. p. 386. Habenberg. Nov. Act. Erudit. Suppl. t. i. §. 7. Shebbeare's Pract. of Physic, p. 261.

OF THE SUPPOSED EXISTENCE AND INFLUENCE OF A FERMENTING PRINCIPLE AS THE OCCASIONAL CAUSE OF MENSTRUATION IN THE HUMAN FEMALE.—

This notion, for it scarcely deserves the designation of a theory, seems first to have suggested itself to the physiologists of the seventeenth century. Writers have differed however as to the nature of the principle with which they have proposed to connect the remarkable power which they have ascribed to it. They have also not agreed on the essential points of its source and the locality of its residence; some having limited both its origin and locality to the uterus, and others having proposed to bring it, for the accommodation indeed of that organ, from other and in some cases distant parts of the body. In one school it was deemed to be a produce of the hepatic system, and therefore of bilious origin; and in others a sort of excrementitious residue of all the glandular operations of the body; whilst by a third party it was presumed to be furnished by the cellular tissues investing the kidneys, ovaries, uterus, &c. Zendrini Cort. Chin. p. 74. Charleton de Caus. Catam. et Uteri Rheumatism. De Graaf. De Mulier. Organ. Generat. inservient. p. 132. Gandolph. Hist. Roy. des Science, 1707, n. 9. Some writers of the last century connected it, under different modifications, with the passion and with the organs subservient to the female attribute of reproduction. Santorini Opuscula, art de catamen. Vieussens Nov. System, p. 10, 11. Ephemerid. Curios. Dec. iii. an. 4, append. Among the speculations of these later writers, the most fanciful, and at all events the most laboured, is that of M. Le Cat, which the reader will find recorded at ample length in the Old Journal de Médecine of Paris, tom. xx. p. 311.

After duly objecting to all former theories, M. Le Cat introduces the deve-

lopment of his own views by a general assumption, that in all the operations subservient to the function of reproduction there is found to be essentially present, as their motive principle, a certain degree of putrid fermentation. This, he asserts, is incontestable, as may be proved by observations which may any day be made on the formation of microscopic insects. Witness also the ordinary phenomena of incubation in the common fowl. "Quel goût affreux n'a point un œuf couvé?" Nature is uniform in all her works. A certain degree of putrid fermentation is also the preparatory and occasional principle of generation in man. Accordingly the menses of the female constitute a declaration of readiness and an evidence of predisposition and power for the function of reproduction. We find therefore in the menses an incipient degree of putrid fermentation, coincident with a voluptuous phlogosis of that organ; which phlogosis, it is now proposed to establish as the cause of this periodical evacuation. Proceed we then to develop our principles on this subject. The passions in a moral point of view are inexhaustible sources of evil to us, but of very little good; whilst their physical effects on the animal economy even at their source are liable to a similar charge. What a legion of evils are consequences of anger, chagrin, and fear? Of how many cases of sudden deaths have we not heard of persons who have perished the victims of excessive passions? In a less violent degree, epilepsies, trembling of the limbs, loss of speech, loss of voice, and loss of reason itself, are sometimes the consequences of disturbances of the passions. More frequently however they produce inflammatory eruptions of the surface of the body, determinations and engorgements of blood, abscesses, reduction or perhaps exhaustion of the animal spirits in certain parts, gangrene and mortifications, lymphatic engorgements, scirrhusities, &c. "Independently of the shocks which the passions are calculated to inflict on the living machine, the erethism which they introduce into it are moreover productive of certain powerful affections immediately to be described. I have satisfactorily proved, as I believe, in my Physiology, p. 128 to 137 inclusive, that the material principle of the passions resides in the several modifications of the animal spirits. Introduced by the passions, their disturbed forms or modifications cease to respect the legitimate characters of the animal spirits as they ought to be respected, if to be made conducive to the greatest benefit of the machine. All passions are, in a degree, depravations of the legitimate character of the spirits: we are not therefore to be surprised if the passions produce inflammations and engorgements." The spirits when vitiated and depraved, become incompetent to give to the vascular system its proper power of resisting force. The blood therefore over-distends them, and passes through them into such of their ramules as should only admit the uncoloured part of that fluid; and hence engorgements and schirrosities. This inflammatory engorgement, an effect of the first degree of depravation of the spirits, is often productive of a powerful and painful resistance, and consequently becomes in many cases an admirable resource of providence for the conversion of a threatened

evil into an absolute good. It is moreover to be identified with a proximate condition of parts inseparable from certain marvellous affections of the animal economy in one of its most remarkable depravations of a passion; a passion which would appear to kindle the elementary fire of life in the midst of disease. Love is that passion. "Who is he that does not know both the good and bad effects of love? Physiologists find it thus admingled at its source. Love is the delirium of the best age of man. It has its languors, its fever, and its proper organs. It has moreover a peculiar sense; for you may remember what I said of a sixth sense in the introductory observations to my work on physiology already referred to." If the passions be in fact modifications of the spirits by which ordinarily its legitimate attributes are deranged, it will be in the organs that are more immediately the seat of the most active passions, as in the centre of such activity, in the very interior of this fever of youth, that we must expect to encounter the depravation in question. Hence a periodical phlogosis, of which a remarkable effect is a transudation of a small quantity of blood; an inconsiderable effect indeed, but the effect of a great cause, and followed by no trifling consequences. But why is the evacuation periodical? Love, which is its principle, is surely not governed by lunar influence. Its organ is indeed permanent; but the phlogosis, the hæmorrhoidal engorgement, if we may use such an expression, cannot be permanent, because the evacuation which takes place from the part relieves it of its embarrassment by furnishing an outlet at once for its accumulated fluids and its fermented and depraved spirits. A given time is required to complete the depravation here supposed, as well as for a new accumulation of the fermented spirits and morbid fluids. That time is commonly about a month. "I am desirous to guard my system against any chance of being supposed to be identified with, or to depend upon any sanguineous plethora of the uterus. There is in the uterus no plethora. It is a spirit peculiar to the organ of reproduction, the motive principle of the passion of love, become intensely developed and rarified, that produces the periodical transudation of blood by effecting previously, as I have just demonstrated, a solution of tone, a reduction of the force of resistance of the vessels of the part. I once believed the evacuation in question to be the consequence of a sort of erethism; I then considered the inflammation consequent upon a puncture, and the tumour which follows a blow, to be respectively the effects of erethism. My opinion on these points is changed: and as I can here spare no room for details, I beg to submit to my reader the choice of one of two hypotheses, viz. that it is to be attributed either to atony or erethism. The depravation of the spirits might in fact produce either the one or the other according to its specific character. In short, local atony often causes general erethism, engorgements, and abscesses, as results of contusion from rupture and disorganization of the solid parts of the body, and this way comes to produce tension of the adjacent solids, pains and eventually a symptomatic fever which is to be identified with an universal spasm. A bladder without contractility is sometimes the cause of a retention of

urine. It becomes distended, and the nerves sustain a painful shock, whence is occasioned a general erethism. Atony is in no case so obvious as in gangrene or mortification, which are frequently effects of erethism, and which are always accompanied or followed by that form of phlogosis."

M. Le Cat then proceeds to enforce his theory by the several considerations following. 1. Menstruation has no existence during infancy; because the nervous system has not yet arrived at a state of sufficient consolidation, and because the spermatic liquor has not begun to be produced. In short, the powers of love are not yet evolved. Menstruation ceases in old age, because the sources of the spermatic fluid are dried up. The aliment of the passion is consequently exhausted. 2. Youth is the proper age of menstruation, because it is the age of pleasure; because the seminal fluid, which constitutes, so to speak, its very vitality, abounds in both the sexes, and especially and above all in the organs subservient to the function of reproduction. It is in youth and mature life that the function of insensible perspiration is most active, and its produce most abundant. Consequently these ages should less than any others be subject to vascular over-distention. It is then at that age, and in those organs principally, that the voluptuous spirits of which we have spoken ought to produce the phlogosis, which we have submitted as the motive principle of the menses. 3. Women of a warm temperament, of active dispositions, and of firm and healthy constitutions, and those who live in hot climates, have their menses abundantly and early; because all these circumstances have a tendency to promote and to sustain the interests of the amorous passion: whereas their contraries are the grave of voluptuousness. 4. Bleedings, purgatives, diuretics, diaphoretics, a strong diet, sobriety and exercise are calculated to remove plethora; and therefore to re-establish the menses when suppressed, and to facilitate their discharge when already existing. Plethora usually oppresses the nervous system, and causes a sluggish and painful performance of the functions. Full charges of aliment and liqueurs added to a dead weight of corpulency, are therefore essentially unfriendly to the interests of the amorous passion. For the contrary reason, women of a spare habit of body, but more vigorous and active, are generally more ardent in their sexual and connubial attachments, as well as more regular in the performance of their menstrual function. 5. Cold, fear, sorrow, &c. are known to check perspiration. They are therefore calculated, as already observed, to promote a debilitating over-distention of the vascular system: and this plethora, by oppressing it, extinguishes the fire of the fine passion which furnishes the motive principle of the sexual evacuation. In these circumstances, consequently the evacuation itself becomes not unfrequently suppressed. 6. Joy on the other hand, pleasures of all kinds are so many branches of voluptuousness; giving additional life to the whole machine, and renewed energy to all its functions. They therefore administer to love's happiest triumphs; and hence they are conducive to the phlogosis of menstruation. 7. Can it make any difference to a menstruating

female, whether she stands or lies down, or what other position of her person she may choose to adopt. The erect position or any other can only be preferable in so far as it may tend to invigorate the disposition, and add to the power of the amorous passion. It is the power of this sentiment that is the proper motive principle of the periodical crisis. By that genial agency it is promoted: by opposite influences it is retarded or suppressed. Unlike those of the females of inferior animals, who are only occasionally and at distant periods the subjects of the passion so often adverted to, the sexual changes of the human female are so frequent as scarcely in her case to admit the idea of an entire absence of their exciting principle. In her therefore, because it is the privilege of her nobler nature, the sentiment only sustains a temporary diminution of its power. The gentle flame is never permitted to be totally extinguished. 8. M. Le Cat, under this head of his subject, elaborates at great length the application of his theory to the explanation of the sexual and constitutional phenomena incident to the human female, both in health and disease. These explanatory illustrations, though often exceedingly ingenious, are upon the whole very much too visionary and declamatory to warrant their translation into the present work. The author has forborne to mark the above abstract from M. Le Cat's essay with inverted commas, agreeably to his usual practice, because he has found himself under the necessity of greatly modifying the language of the original, and even of suppressing some of its statements, in order to adapt it to the more particular taste and perusal of his English readers. He has however endeavoured to convey the true meaning and substance both of its fancies and facts. In taking leave of it he may be permitted to make a few brief remarks upon the theory of menstruation which it propounds. 1. It does not seem to the author to be entitled to the merit of absolute exclusiveness and originality. The idea of ascribing the menstrual evacuation to the agency of a stimulant ferment in the uterus had certainly occurred to several writers who preceded M. Le Cat, among whom we may quote the names of De Graaf, Bayle, Gandolph, Charleton, Vieussens, Sauvage, Emmet, and Santorini. Of these we may moreover observe, that the greater number connected the action of their supposed ferment with the particular passion which M. Le Cat calls the motive principle of the evacuation. 2. The propounder of this theory himself remarks that two circumstances are characteristic of a happy system; viz. "first, an adequate evidence of its principles, and secondly, its just application to all the facts." Now does there exist in support of this theory any kind of legitimate evidence, whether founded on physical or moral facts, or on probable and credible testimony? There is indeed the putrefactive process concomitant with the reproduction of microscopic animals; and something more is said about the frightful stench of an addled egg. But what has either of these points to do with a theory of menstruation? Oh yes, adds M. Le Cat, "Nature is uniform in all her works. A certain degree of putrid ferment is also the preparatory exciting principle of generation in man. We discover in the menses the principle of an incipient

degree of putrid fermentation." Now as the professed basis of a highly-wrought theory, this latter statement ought to contain the declaration of an absolute and an unquestionable fact. But is that the case? The author is quite aware of what has been averred by some ancient writers about certain offensive and malignant properties, which they have presumed to connect with the produce of the menstrual function. He will have an early opportunity of more particularly adverting to those statements. His business at present is to examine into the truth of a given proposition involving an important physiological principle advanced by a modern. The assurance with which its assumption is propounded is indeed such, that an axiom could scarcely be delivered with the appearance of a stronger conviction of its being well founded. Must it then be supposed that the matter which it predicates is self-evident, or that its truth has been demonstrated by any satisfactory process of reasoning? Or is it the result of a series of well-conceived experiments, or of observations of certain facts and phenomena of the function to which it refers, which had escaped the notice of most of his predecessors? Or is it an inference founded on any vague analogy supposed to exist between the produce of healthy menstruation and other kinds of discharges from the same source; or, finally, is it a fact or even an opinion communicated to our profession by any considerable number of qualified reporters from among the parties who are themselves the subjects of the function? Why, it is not any of these. It is a mere idle fantasy of an individual, or at best of a very few persons, unfounded in nature and unsupported by evidence. The recent produce of the menstrual secretion when actually distilling from a healthy uterus, is in fact as little liable to the charge of putridity, even "of the first degree," as are the more considerable streamlets of actual blood which escape from an engorged Schneiderian membrane in the familiar incident of epistaxis. M. Le Cat must have been pretty well aware of the fact that conception is ordinarily either a precursor or sequel of the actual *nisus* of menstruation; it being the universal practice of our race in all civilized nations, to abstain from the means of impregnation during the flow of the menses. The reader will please to observe that our theorist has identified his putrid ferment, not indeed with a given state of the uterus itself, but with a certain incipiently morbid condition of the subject material of its discerning function. But the principal feature of this theory is the prodigious influence which it ascribes to the agency of the amorous passion, which, in its own language, it represents to be "the motive principle of the catamenial attribute of the sex." It must be indeed acknowledged that the passion and the function are usually, though not always, co-existent in the same individual. But it is equally well known that they exist contemporaneously only during a certain portion of female life; it being an indisputable fact, that the duration of the one ordinarily exceeds that of the other by many years. Moreover, M. Le Cat more than intimates that they are common attributes of one and the same subject organ. The author does not exactly know how to deal with this part of the statement. It has been already

pretty well proved that the subject organ of the function is the uterus. But that it is the seat of the passion, is, in the author's opinion, a very doubtful problem. Poets and lovers have usually represented it as an affection of the heart. Physiologists have sometimes referred it to different organs in different sexes; but metaphysicians and naturalists have scarcely assigned it any specified residence. Thus much is however certain, that it does not absolutely require a uterus for its residence; inasmuch as man is, at least, equally a subject of its power with the female.

Our theorist seems to be strongly impressed with the notion that the human female is more intensely the subject of the sexual passion during the flow of the menses, than at any other time. Supposing this point was proved, would it thence follow that the passion including its supposed increment was the cause rather than the effect of the agency of the function? But are we possessed of any satisfactory evidence that like the function it is subject to any law of periodicity, or to any paroxysms of activity of its presumed influence on the uterus? Are there any striking indications to be observed in the conduct of women which could be supposed to mark the accession or presence of these concurrent disturbances in their constitutions? Have any eminent physiologists, of whom many no doubt have had abundant opportunities of acquainting themselves with the more intimate habits of women, borne testimony in accordance with the assumptions of M. Le Cat? Is it the prevalent opinion of husbands, who may be supposed to know something about the matter, that the amorous passion in the female is more ardent during the presence of the menstrual period than at any other time? And lastly, does there exist in any quarter the shadow of an evidence that women have ever acknowledged, or even suspected, themselves to be more the subjects of the sexual passion during the flow of the menses, than during the weeks immediately preceding or subsequent to the nîsus of the catamenial function? The author believes that the answers to all these queries, TO BE TRUE, would be made negatively. On the subject of the last question, one of the most illustrious writers of any age has left recorded the following unequivocal testimony: "Women have indeed been unwilling to acknowledge to me the existence of any increased disposition to venery at this period, although a congestion of blood and a consequent feeling of inconvenience requiring natural remedies might give rise to a certain pruritus of the parts, in the same way as a similar congestion in the females of the lower animals would seem to seek its appropriate means of relief. Many young women of unimpeachable chastity perform their menstrual function in the midst of extraordinary and scarcely endurable suffering. But the pains which they sustain are not those of an inflammatory and corroding acrimony of the discerning organ, but those of a sense of extreme vascular distention. In some cases, languor and depression of spirits are the symptoms which chiefly indicate the presence of the period. Moreover, some very young women who have menstruated before the accession of puberty, remained nevertheless in ignorance of the venereal passion, and

even subsequently in after-life never experienced it." Haller. *Element. Physiolog.* lib. xxviii. § 3. The phenomena of menstruation are not such as to indicate the existence of any putrefactive acrimony in the material of the secretion. Were that the case, we might naturally expect that the uterus would be the first and the principal, if not the only viscus which should become implicated in the morbid results of suppressed menses. Supposed by the theory to be the immediate seat of a phlogogis kindled by the agency of the deleterious ferment, it does not appear possible that the subject organ itself should escape being stimulated into a state of high inflammatory action if it should not be eroded into a positive solution of its continuity.

But are these usually the more immediate consequences of suspension of the function? So far is that from being the case, that we generally hear a great deal more of constitutional symptoms than we do of morbid states of the uterus itself; such as those of determinations and congestions in other and often distant parts of the body; affections of the gastric functions, and of the nervous and sanguiferous systems. 4. The existence of a fermenting principle competent to the production of the phenomena to be accounted for, whether a produce of the uterus, or of the ovaries, or of a supposed female prostate, or whether the result of any actions of other parts or of systems of tissues of the body, can be considered in no other light than in that of a most gratuitous *petitio principii*.

OF CONSTITUTIONAL PLETHORA CONSIDERED AS THE OCCASIONAL CAUSE OF MENSTRUATION IN THE HUMAN FEMALE.—On the first suggestion of this theory to account for an apparently sanguineous discharge, some of the more familiar examples of accidental hæmorrhage would seem ready instantly to present themselves to the mind: and it being a fact, that the greater number of accidental hæmorrhages are either ascribable, or at all events ascribed, to an overfulness of the sanguiferous system, the doctrine of a sexual periodical plethora would thus introduce itself to our acquaintance under circumstances of obvious advantage. From the greater softness and succulency of the softer tissues, and the greater lightness and slenderness of the more solid parts of the female body, than those of the corresponding structures of the male subject, it would seem at least a plausible presumption if not a manifest fact, that the fibro-vascular tissues which contain the several fluids of the human body, and those fluids themselves, enter into the composition of the appropriate structures respectively of the persons of either sex in very unequal proportions. The general mass of blood being the great reservoir whence must be derived the materials for the manufacture of all the other parts of the fabric, it would almost necessarily follow that the female should be competent, by the condition of her sex, to supply these materials in a proportionally greater quantity than the male. The characteristic difference in the general appearance of the persons of the two sexes, presenting themselves more strikingly, DURING THE PERIOD in the lives of each, intermediate between puberty and the commence-

ment of old age ; it might not appear unreasonable to conclude that an excess of the component fluids in the person of the female should especially distinguish that period. It is a very remarkable fact that this supposed excess of fluids, and therefore probably of the mass blood itself in the female over those of the male, is in healthy subjects of the former sex a coexistent and a measure of their exclusive function of menstruation. It is also another remarkable fact that the human female is qualified for her great and exclusive office of reproduction, only during the period of the more marked excess of her fluids over those of the male, and for the most part only coexistently with the periodical function presumed by the theory now discussing to be an indication and a result of that excess. The fact of such excess being assumed, and the power of reproduction in the female thus appearing to be inseparably connected with it, is it not possible that the united efforts of anatomy and physiology might achieve the discovery of some of the means which nature may have adopted to make it a distinctive and an essential attribute of the sex? Something of this kind was actually attempted in the earlier part of the last century by Sir Clifton Wintringham, in his work entitled *Experimental Inquiry on some parts of the animal structure*. The facts made out by that eminent individual are so important in themselves and so corroborative of the assumptions which constitute the essence of the theory of plethora as the cause of menstruation in the human female, that no proper explanation of that theory can be attempted without reference to that gentleman's conclusions. By Sir Clifton's experiments it was pretty satisfactorily proved that the arteries both in men and women are stronger than the veins ; but that the amount in which the arteries exceed the veins in strength, is greater in the male and less in the female. The arteries of the female sheep are more capacious and less firm in their structure than those of the same name in the male animal. The density of the aorta near the heart in the ram is to that of the density of a corresponding part of the same artery in the female as seventy-nine to seventy-eight. Above the origin of the emulgents, the proportionate corresponding densities of each to each is as twelve hundred and thirty-eight to a thousand. Just above the iliacs the densities are as twelve hundred and seventy-two in the one to a thousand in the other. The proportion of the solid part of the artery to its lumen and contained blood was found to be in the descending aorta of the ram to that of the corresponding part of the descending aorta of the female animal as eleven hundred and eight to a thousand. In the superior aorta the same proportions in the ram and the sheep respectively, were found to be as a thousand and thirty-three to a thousand. Above the emulgents, their proportionate strength to their tubes and contained blood was as thirteen hundred and thirteen to twelve hundred and twenty-nine. It therefore follows that there exists a positive inferiority of strength in the lower arteries and those going towards the pelvis of the female to that of the same arteries in the male subject ; wherefore it must also follow that the same arteries in the female are more easily distended by the blood which is sent to them by the heart than

those of the male. The veins moreover in the female, as they are indeed in the male, are weaker than their corresponding arteries, but they are not weaker in the same proportion to the arteries, as they are in the male. The strength of the aorta as far as the iliacs in the ram exceeds that of the same artery in the ewe in the proportion of seventy-one to seventy; but the strength of the vena cava in the ram exceeds the strength of the same vein in the female animal only in the proportion of a hundred and fifty-five to a hundred and fifty-four. Again, the strength of the arteries above their emulgent branches, to that of their corresponding veins in the ram, is as twelve hundred and thirty-eight to a thousand; but in the sheep, only as eleven and sixty-six to a thousand. Wherefore, since the veins are less easily distended by the blood, which is sent to them by the arteries in the female than in the male, the lumen or diameter of the veins will be accordingly in that proportion less in the female than in the male subject relatively to the amplitude of their corresponding arteries. The lumen of the vena cava in the ram is to that of its corresponding artery as sixteen hundred and eighty-five to a thousand, whereas in the ewe the proportions respectively of the diameters of the tubes of the same vessels are as seventeen hundred and thirteen to a thousand. Whence it follows that in the ewe the veins must in that proportion possess a greater power of resistance than in the male animal. But a greater power of resistance in the veins must be considered as proportionally tantamount to a less power of propulsion in the arteries.

In reference to this important result of the experiments of Wintringham, Haller observes, cap. xxviii. sect. 3, § 17, that he should not much regard what had been advanced by celebrated men, referring especially to Pitcarne, *Flux. Menst.* 154, 155; Friend, *Emmanolog.* cap. iv.; Le Fevre, *Physiolog.* p. 169; Scardona, *Aphor. de Mulier. Morb.* p. 15, and Hoffman, *Med. System*; who had all stated the fact of the greater amplitude of the inferior aorta in women than in men, and that moreover he should not think much of the proportionally large size of the hypogastric artery in the female in comparison of that of the male as represented by Emett. "Inasmuch," he proceeds, "as the pelvis of the female is more ample and its viscera larger than those of man, and the uterus with its vagina must acquire a greater amount of vascular structure than the vesiculæ seminales and the prostate of the male subject; it becomes obviously necessary, in order to ensure a proper distribution of blood to the organs respectively of the two sexes, that a greater quantity of that fluid should be determined to the pelvis of the female than to that of the male, without any reference to the production of an exclusively sexual plethora in the genital system of either sex. But Wintringham has demonstrated that the aorta as it approaches the iliac vessels, whilst it acquires a greater proportional increase of volume in the female than in the male subject, does however retain a less proportional degree of strength; and also that the arteries more immediately subservient to the genital organs in the female are more dilated by the powers of a heart of equal strength than the corresponding vessels of the male."

The density of the aorta of the ewe along its course towards its iliac branches, sustains a greater diminution than that of the ram; its density in the female to its density in the male at about the parallel of the kidneys, being as one thousand to one thousand and eighty-nine; whilst at the corresponding parts of the same artery when approaching the iliacs, its densities are found to be as a hundred to a hundred and six; the density thus obviously diminishing less in the descending aorta of the male than in that of the female.

The diminution of density continuing progressive, and in its relation to the sexes retaining the same proportional parallel of decrement as the arteries respectively proceed in their descent, it must of course follow, that upon reaching the pelvis, the density of that of the ewe will be proportionally less than that of the ram, and that its several branches will possess less force of resistance in the one case than in the other, and therefore the capacity of those of the ewe of receiving easily a greater quantity of blood sent to them from the heart will be greater than those of the ram of the same cognominal designations. But not only do the pelvic arteries of the ewe *SEEM* to receive their blood from the heart thus easily, but they actually do receive it with greater facility than those of the ram. The proportional capacity of the inferior aorta to that of the superior aorta in the ewe is to the same proportional capacity of the inferior to that of the superior aorta in the ram as one thousand and eighty-two to a thousand. Wintringham, p. 246. At the origin of the iliac vessels nearer the uterus, the proportional capacity of the artery to that of the vein, especially at about the parallel of the renal vessels, is greater in the ram than in the ewe, in the ratio of eleven hundred and five to a thousand. Wintringham, Experiment. p. 113. The capacity therefore of the aorta in its progress of descent towards the pelvis greatly increases in the female relatively to its density. But it also increases in a much greater proportion in this respect than it does in the male.

It has been long known that the arteries of the uterus are proportionally of large dimensions. But what should by no means be omitted to be stated is, that the disposition of the veins is just the reverse of what has been described to be that of the arteries; for in their descent downwards the density of the vein *DECREASES MORE IN THE RAM AND LESS IN THE EWE*; the density of the vena cava at its origin from the heart in the ram being to that of the vena cava in the ewe in the same situation as ninety-one to ninety, whilst at the iliac branches their densities respectively are as a hundred and fifty-five to a hundred and fifty-four; thus proving a less decrement of density in favour of the iliac vein of the female. The lumen of the vena cava in the ewe at the parallel of the kidneys is to that of its corresponding artery as four thousand six hundred and ninety-four to a thousand. Near the iliacs the proportions of the same vessels are as a hundred and ninety-one to a hundred. We hence conclude that the veins in their progress are less dilated than the arteries in more than a two-fold proportion. Now from all these facts it follows that the blood passes the inferior aorta in females with more facility; that from the ultimate ramules of

the arteries the same blood must return through the proportionally smaller and denser veins with greater difficulty; and that therefore it must be liable to a great retardation of movement in its transit through the minute passes of the incipient veins of the uterus.

The above premises being assumed, Haller and his disciples have thought themselves authorized to deduce from them the following theory of menstruation. In all animals, the superior vessels, those especially which are to supply the head, are first evolved; then those of the abdomen, and more particularly those of the liver; and in a short time subsequently those of the lungs. All animals are born with their vessels of the inferior part of the trunk comparatively small, those for the pelvis very small, and those for the feet much smaller in proportion than those of other parts of the body. Hence after birth the growth of the head is least, that of the legs and arms more; but that of the pelvis and feet most. The large fœtal arteries communicate with the placenta, whence the blood is returned not by the pelvis, but by the liver into the heart. Now on the application of a ligature to the umbilical cord, the blood upon its reaching the branches of the inferior aorta, obedient to the laws of derivation, rushes more vehemently on the vessels nearest to the impediment or ligature. It is therefore impelled downwards in the direction of the pelvis. That effect takes place indeed so manifestly, that the pudendal or ischiatic artery becomes the principal trunk of the hypogastric artery, which after birth is determined into the depth of the pelvis with as much force of its current as before birth it was determined upwards from the pelvis to the umbilicus. But this blood has the effect of expanding the pelvis and the feet so much the more, because these parts, as being of inferior volume and density, are less partakers of an osseous character, and continue after birth to retain something of their fœtal nature. They are therefore developed more easily on account of the more rapid advent of their blood into them by their arteries, and of the more tardy return of it by the corresponding veins. The pelvis thus gradually becomes so expanded, that at length the uterus, which together with the bladder occupies before birth a situation immediately above it, sinks afterwards into its cavity. This evolution of the uterus is capable of being demonstrated by anatomical experiment. The uterus of the infant has few vessels, and those too small to admit wax injection; whereas the same organ subsequently to the development of its arteries by puberty, presents after injection a beautiful display of numerous and large vessels. About the age of from twelve to fourteen, the growth of girls, though there may be some, is not considerable; when the bones in like manner are not much produced; inasmuch as the bones do not grow excepting so long as their cartilaginous epiphyses retain a certain degree of firmness of texture, and they cease to grow when that tipping of their extremities becomes attenuated into an unyielding incrustation. A plethora therefore at this period takes place in both sexes; of which in the male, the presence is indicated by frequent hæmorrhages from the nostrils, great alacrity,

florid colour, and other circumstances. This plethora in boys manifests itself also about the same time in and about the pelvis. Hairs grow on the pubis. The testes become competent to secrete serum. The vesiculæ seminales acquire an increased volume; as do also the inguinal glands. Contemporaneously with these developments there is moreover evolved the sexual passion, together with the disposition and the power to gratify it.

In the young female of the same or of a somewhat earlier age, a constitutional plethora is observed to take place as presumed from similar causes; together with an additional plethora which is peculiar to her sex, in consequence of being exempt from hæmorrhages of other kinds; and from her less rigid arteries being competent to receive their charges of blood more easily, to be thence transmitted however to the denser veins with greater difficulty; where in the confined and narrow passes of the minuter vessels, it becomes liable, as already stated, to be greatly retarded in its movements.

It was believed in the time of Aristotle, that the females of all animals contained a greater proportional abundance of blood than males. Aristotle's History of Animals, Book iii. ch. 15. But the fact has been put beyond a doubt, in modern times, by proofs from actual experiments. Hale's Statistic Essays, Art. Hæmastatics, p. 12. This is probably the reason, why women sustain hæmorrhages better than men. The evidences of an increased quantity of blood being determined to the genitals of the female at the age of puberty, are an enlargement at that time of the cavernous plexus of the vagina, a greater volume of the clitoris, the appearance of hairs on the pubes and labia, and the evolution of the sexual passion. Girls arrive at puberty at an earlier age than boys, partly on account of their being the subjects of a greater amount of plethora from the circumstances just stated; but also by reason of the inferiority, as we have already seen, of the force of resistance of their inferior aortic system of arteries to that of the male. This is THE PLETHORA from which many distinguished men, both of ancient and modern times, have derived their theory of menstruation. In the further application of its influence upon the uterus, in order still more satisfactorily to account for its agency in the production of the catamenial evacuation, there yet remain some interesting facts incident to its history, which require to be briefly stated. In the young female subject, the blood being transmitted by the proper arteries into the uterus, has the effect of distending the serpentine convolutions of the arterial part of its fabric. In the meantime, it extends in its dimensions in all directions, so as to reach even as far as the uterus; a circumstance which is well known to take place especially in pregnancy. But as soon as this organ acquires the least accession of volume which it is destined to sustain on the approach of puberty, the blood is supposed to increase its vascular convolutions, just as happens in the case of an artery, which the anatomist fills with wax in order to furnish himself with a specimen of the distribution of this class of vessels in the uterus. Of the remarkable and characteristic distribution of blood in this viscus, it is obvious that one principal effect

must be a retardation of its circulation, proportioned to the tortuosities of its arteries. If we add to this fact the consideration, that the blood is returned from the ultimate ramules of the tissue in question by veins of comparative small capacity, and at the same time possessing a greater proportional density than is common in other parts of the body, we thus discover a twofold reason why the blood should circulate in the most minute ramules of the arteries of the uterus with more than ordinary slowness, and why more should be sent into it than can be returned from it into the general circulation. Hence, a given quantity of the circulating fluid is supposed to become almost stagnant, partly in the ultimate ramules of the arteries, and partly in the minute veins, producing an intumescence of the organ by the agency mutually of direct and lateral pressure on the over-distended vessels. But at length the greater branches of the spermatic and hypogastric veins become distended from the blood being too tardily returned to them, in consequence of which the lateral pressure which distends their parietes prevails over the momentum of the direct current which is being transmitted within their tubes. An occasional result of this vascular over-fulness is a painful sense of distention which pathologists have usually referred to certain tensions, and otherwise morbid conditions of the nerves which enter into or are immediately contiguous to the over-distended vascular tissues themselves. At length a transudation takes from the ultimate vascular ramules of the organ; but only from those which are exposed to no degree, or to the least possible degree of impeding pressure. Such are those which terminate upon, and which probably are structurally constituent of, the delicate and villous tissue of the internal surface of the body of the uterus. On the first occasion of the *nisus* of menstruation, it is not difficult to suppose that the vascular tissues concerned in the function may sustain a less amount of vascular distention than subsequently; and hence this transudation would consist exclusively of a transparent or of a slightly-coloured fluid; and even of that, only a trifling quantity might be furnished. On future occasions, the same vessels becoming again and repeatedly the subjects of the same degree, or even of a greater amount of distending force, the evacuation will be furnished in a greater quantity, and in its usual and characteristic form.

Whether the transudation in question is to be considered a merely mechanical result, as are probably the greater number of transudations OF SEROUS MEMBRANES, or whether it is the effect of a discerning action of the ultimate curling arteries of the uterus constituting a generally supposed mucous membrane, physiologists are not agreed. But whether this discerning function is admitted or not, the theory of plethora of the organs concerned requires that part of the explanation of it just given, which supposes an over-distention essentially in all cases of the extreme vessels, both arteries and veins of the uterus itself, and incidentally in other cases that also of the communicating trunks, inclusive of course of an uncertain number of ramifications of the spermatic and internal iliacs. This theory supposes a constitutional plethora of the sex as

necessary to qualify it for the performance of some of the most essential duties incident to its great function of reproduction, added to a local plethora of the organ more immediately concerned in that function, as also in that of the subordinate function of menstruation. Some writers have moreover contended for this union of a general and local plethora as necessary to account for the phenomena of the subordinate function of menstruation, as well as for those of all the functions exclusively appertaining to the sex; while others have been disposed to ascribe those of the catamenial function alone to a plethora merely of the uterine system. Of the latter or more limited theory, Dr. Cullen is reported to have been the most talented advocate. The author has indeed always understood that the advocacy of this doctrine was a favourite subject with that eminent professor, and that its discussion formed one of the most interesting lectures of his course. The best account of Dr. Cullen's doctrine probably extant, is one contained in a review article of the late Dr. Alexander Hamilton's elements of the practice of midwifery in vol. iii. p. 61, of the Medical Commentaries. As Dr. Hamilton, as well as his reviewer, the late senior Dr. Andrew Duncan, must be supposed to have been well acquainted with the principles of their celebrated colleague on this as on most other subjects, the author scarcely needs to apologize for submitting it to his reader in the words of the original article.

OF DR. CULLEN'S THEORY OF A PLETHORA EXCLUSIVELY OF THE UTERUS AS THE CAUSE OF MENSTRUATION IN THE HUMAN FEMALE.—On this subject our author begins with some remarks on the menstrual evacuation. After mentioning from the most accurate observations the time of appearance, duration, and quantity of this discharge, he offers some reflections on the different causes to which it has been assigned. Rejecting without examination those opinions which suppose menstruation to depend on the influence of the moon, the ferment of particular fluids or such like causes, he considers it as most probable that it proceeds from an universal or from a partial plethora. To the former however he brings several objections, and he asserts that the idea is vague; that the existence of a general plethora is by no means proved; and that even allowing it to be proved it will not account for all the appearances. He holds it to be the latest and most probable opinion, that the menses depend upon a topical congestion; and he adopts this opinion on the ground on which it has lately been taught in the university of Edinburgh by Dr. Cullen. He sets out with observing that the growth of the human system in general depends on an increase of the quantity of fluids giving occasion to a distention of vessels, and thus producing a gradual evolution. This evolution he considers as not happening equally in every part of the body at the same time, but successively in different parts, according to the size and density of the several vessels determined by the original stamina. The upper parts of the body first acquire the natural size, and then the lower extremities. By this constitution the uterus is not considerably evolved till the rest of the body is nearly arrived at its full bulk. But

the vessels of other parts, in consequence of their distention and growth increasing in density, not only give greater resistance, but determine the blood in greater quantity to parts not yet equally evolved. Upon these principles there will be a period in the growth of the body when the vessels of the uterus will be distended till they are in balance with the rest of the system. This theory supposes the constitution of these vessels to be such that it may proceed so far as to open their extremities terminating in the cavity of the uterus, so as to pour out blood there; or that a certain degree of distention may be sufficient to irritate and to increase the action of the vessels producing a hæmorrhagic effort, which may force the extremities of the vessels with the same effect of pouring out the blood. In this manner it is imagined that the first appearance of a flow of blood from the uterus in women may be accounted for. It proceeds upon the supposition that the evolution of each particular part must especially depend upon increased congestion in its proper vessels. But as this plethoric state of the vessels of the uterus produces an evacuation of blood from them, they are again put into a relaxed state with respect to the rest of the system. This emptied and relaxed state is supposed to give occasion to a new congestion, till these vessels are brought again to the degree of distention which may either force their extremities or produce a new hæmorrhagic effort with the same effect as before. Thus the menstrual discharge is begun by causes which must continue to produce it at certain intervals till particular circumstances occasion a considerable change in the constitution of the uterus. The return of this discharge at nearly the space of a month depends on a certain balance between the vessels of the uterus and those of other parts of the body. When the first periods are thus determined, a considerable increase or diminution of the quantity of blood in the system will have afterwards but little effect towards either increasing or diminishing the quantity distributed to the uterus. And when this evacuation has been repeated for some time at regular periods, it is supposed that the power of habit will have a great share in continuing this regularity.

In this manner, according to our author, does Dr. Cullen explain the theory of menstruation; and he is inclined to consider this account though still liable to objection, it nevertheless seems to him as rational as any opinion that has yet been advanced. What these objections are our author has not said, nor is it our business to enter into any inquiry respecting them. We may here however observe, that this opinion is not so generally received at the University of Edinburgh as our author seems to imagine. Dr. Monro is still a strenuous advocate for the supposition that menstruation depends on a general plethora; and Dr. Duncan, while he taught the institutions of medicine in the University, was so little satisfied with either, that he ventured to propose a new hypothesis on this subject. With a short account of his opinion we shall probably present our readers in some future number. Meanwhile, it will be sufficient to bespeak their attention if we observe, that in a matter of so much doubt, it is hard to say who may be the fortunate person first to hit upon the

truth. The author is not aware that Dr. Duncan ever redeemed his pledge to his readers, by publishing any account of his new hypothesis in any future number of his Commentaries; nor has he had the good fortune of learning in what that gentleman's peculiar doctrine might have differed from all the systems of his predecessors: it seems doubtful whether there may now exist any documentary evidence to prove this point. Of Dr. Cullen's theory of local congestion of the uterus, it may be observed that it tallies very sufficiently with the results of the important experimental investigations of Sir Clifton Wintringham. It must on the other hand be acknowledged, that menstruation cannot be considered as necessarily a consequence of a plethoric condition of the sanguiferous system of the uterus; for it is more than probable that such a state may exist, and yet that menstruation may not be produced. The correctness of this statement is undeniable; otherwise the experiments of Sir Clifton would completely fail to sustain the conclusions which Haller and others have attempted to deduce from them.

Sir Clifton Wintringham's experiments are therefore especially valuable, because they go to establish the existence of an obvious structural cause for a more abundant determination of blood to the genital system of the female than to that of the male. They have moreover furnished data of great value, in proof of an unusually retarded state, if not of an actual congestiveness in the circulation of the uterus; whilst also they have, in a great measure, enabled us to account for the rapid and prodigious developments which that organ is capable of sustaining during pregnancy, and occasionally under other circumstances. In reference to the function of menstruation, they furnish us abundantly with the means or subject material of the evacuation; and, to a certain extent, they supply us with data for a plausible explanation of some of the actions required by the theory of plethora to account for the phenomena of the function. To the author they seem indeed more immediately calculated to sustain the pretensions of the more limited theory of a topical plethora, as adopted and so warmly advocated by Dr. Cullen, than they do those of its parent doctrine, or that which ascribes a plethoric state to the whole of the sanguiferous system of the female. Neither of these theories however seems to supply us with an explanation of one of the most important circumstances appertaining to the menstrual function; viz. that of its being AN ATTRIBUTE PECULIAR TO THE FEMALE OF THE HUMAN SPECIES. Sir Clifton's experiments are highly satisfactory, so far as they enable us to assume the existence of plethora in the sex as a fact, instead of, what before his time it must have been, a mere hypothesis; but they do not at all assist us with a reason why such plethora should be productive of menstruation in the female of our own species, and not produce it in the females of any of the species of inferior animals. That point is still an unknown quantity to be sought, and as yet unaccompanied by any adequate data for its discovery. Nor is anything like a satisfactory explanation afforded of another equally remarkable fact, which especially charac-

terizes the menstrual function, viz. that of its periodicity, either by the experiments of Sir Clifton Wintringham, or by the theories of plethora which have been proposed to account for it. "As this plethoric state of the vessels of the uterus," observes Dr. Cullen, "produces an evacuation of blood from them, they are again put into a relaxed state with respect to the rest of the system. THIS EMPTIED AND RELAXED STATE IS SUPPOSED TO GIVE OCCASION TO A NEW CONGESTION, till these vessels are again put to a state of distention, which may either force their extremities, or produce a new hæmorrhagic effort with the same effect as before. Thus the menstrual discharge is begun by causes, which must continue to produce it at certain intervals, till particular circumstances occasion a considerable change in the constitution of the uterus." A relaxed state of the vessels being supposed to give occasion to a new congestion, is probably an error of language involving an absurdity, which perhaps ought rather to be ascribed to the reporter of Dr. Cullen's doctrine than to Dr. Cullen himself. But in some other respects these plausible statements are only particular forms of expressing the facts of the function. The capacity of an emptied system to become again filled and even congested, is indeed a fact obviously necessary to the function; but the mere statement of the fact does not enable us to see the reason why, nor to discover the agency by means of which it is again so filled and congested. Again, the return of this discharge at nearly the space of a month, may very probably depend on a certain balance between the vessels of the uterus and those of other parts of the body; but this is another statement in a different form of expression of the fact, that the discharge of the function after continuing for a certain time ceases, and that at another time subsequently it presents itself again. We know nothing of the balance which the theory speaks of. We do not positively know that such a balance exists or is necessary; and if it exist, we know nothing of its operation in the production of the alternations of the supposed fulness and emptiness incident to the function.

OF THE SUPPOSED PROPERTIES OF THE MENSTRUAL SECRETION.—Of the properties of this fluid much more has been written than is positively known. Some of the best authorities amongst the ancients, among whom we should class Hippocrates and Aristotle, seem to have considered it as pure blood; and therefore make no mention of any properties which they imputed to it of a nature different from those of "fresh blood from the victim," as Aristotle expressed himself on the doctrine. The younger Pliny, on the other hand, speaks of its properties, as if they were possessed of the most poisonous malignity. His language is to the following effect: "With respect to the menstruation of women, nothing could easily be found to cause more curious and fearful results. Unfermented wine-juice is soured by its vicinity to a person in that state. Corn is deprived of its nutritious qualities by it, grafted shoots are killed, and young garden-plants withered. The fruit of trees, on which menstuous women

have sat, falls blighted. The brilliancy of mirrors is dimmed after reflecting their image, the edge of burnished steel is deadened, as is also the shining beauty of ivory. Hives of living bees are quickly deprived of their busy vitality. Copper and iron become rusted, in consequence of being exposed to the contact of the malignant fluid. Dogs that taste it become mad, and their bite infuses with it an incurable poison. They say, that even that small animal the ant can discover the vicinity of a menstruous woman, and that it throws away the provisions it chanced to be carrying at the moment of making that discovery, not taking to them again. This evil of such a nature and magnitude happens to women every thirty days; but prevails to a greater extent every third month. Some, however, have the menses oftener than monthly, others have them not at all. These latter, however, do not bear children; for this periodical flux is the matter which assists the male in the act of generation. *Plin. Secund. Natural Histor. tom. ii. lib. 7. cap. 15. art. 13.* In the law of Moses, the secretion incident to the function seems to have been considered more in the light of an infirmity of nature and of offensiveness to our senses, than as being possessed of the malignant properties ascribed to it by other ancient writers. *Levitic. xv. 19—38. Isaiah xxx. 22. Ezekiel xviii. 6.* In hot climates it is indeed probable that the menstruous secretion is very liable to become acrimonious under certain circumstances of inattention to the duties of cleanliness. Hence, no doubt, the origin of the strict regulations contained in the Mosaic ritual, and imposed upon the females of the Jewish nation during and for some days subsequently to the period of the function. The personal habits of the native women of India are such as to lead to the same conclusion. The frequency of their ablutions is such as scarcely to be credited, excepting upon the most veracious testimony.

Of the chemical properties of the menstruous discharge nothing very certain is known. In appearance, the produce of the function when quite healthy bears a striking resemblance to pure blood, nor does it in any of its ordinary sensible qualities seem essentially to differ from that fluid. It has been of late years a pretty general notion, that the menstruous evacuation does not possess any of the fibrine of the blood; but the fact has not been established on the basis of an adequate number of experiments. The brief account given by Mr. Brand, in his chemical researches on one or two other properties of this fluid, the blood and some other animal fluids, in the *Philosophical Transactions*, vol. cii. p. 113, furnishes perhaps the best existing chemical document on the subject. "Whilst engaged," observes that gentleman, "in observing the colouring matter of the blood, I received from Mr. Wm. Money, House Surgeon to the General Hospital at Northampton, some menstruous discharge collected from a woman with prolapsus uteri, and consequently perfectly free from an admixture with other secretions. It had the property of a very concentrated solution in a diluted serum, and afforded an excellent opportunity of corroborating the facts respecting this principle, which have

been detailed in the preceding pages. Although I could detect no traces of iron by the usual mode of analysis, minute portions of that metal may, and probably do, exist in it, as well as in the other animal fluids which I have examined; but the abundance of the colouring matter in the secretion should have afforded a proportionate quantity of iron, if any connexion had existed between them. It has been observed, that the artificial solutions of the colouring matter of the blood invariably exhibit a green tint, when viewed by transmitted light. This peculiarity is remarkably distinct in the menstruous discharge. I could discover no globules in this fluid, and although a very slight degree of putrefaction had commenced in it, yet the globules observed in the blood would not have been destroyed by so trifling a change." From what is omitted, rather than from what is actually stated in this notice of Mr. Brand's, it may be inferred, that in the specimen which he reports upon there was no appearance of the presence of fibrine. In the article on this subject, *Dict. de Med.* tom. xiv. p. 181, M. Desormeaux alludes to certain experiments of Dr. Lavagna, which would seem calculated to establish the fact of there being no fibrine in the menstrual evacuation: but he further observes on them, that they had not been sufficiently numerous, and that they had been made on such small quantities of blood, as not to be conclusive. It is a fact, which would seem calculated to prove the correctness of this opinion, that the produce of the function, which has sometimes collected in large quantities in the uterus as well as in the vagina, in cases of imperforate orifices of these organs, and which upon the usual operation being performed is ordinarily found not to be properly coagulated, the consistence being that of a thinnish syrup or treacle. M. Desormeaux proceeds however to remark, that the subject material of the menses thus retained has sometimes been seen mixed with coagula, and moreover that even in some healthy women the function is not unfrequently accompanied by an appearance of masses of concreted fibrine. "I have known," he states, "women in good health who parted with these coagula during the presence of the menses, whenever they had remained for many hours in a horizontal situation, the blood in that case having been allowed to accumulate and coagulate in the vagina. I therefore feel myself warranted in concluding, that, if in some cases the menstrual blood is devoid of fibrine, it is not so in all." To the correctness of this conclusion the author cannot give his assent. On the contrary, his experience would lead him to presume, that the produce of this function, when performed perfectly healthily, and when it does not exceed the natural quantity, contains no fibrine, believing that in the cases referred to the specimens of concreted fibrine are never presented, during a healthy state of the function, and that therefore, when they are presented, they should be considered as being admixed with a discharge of actual blood, the result of morbid transudation, or of solution of continuity of some part of the uterus.

OF THE INFLUENCE OF MENSTRUATION ON THE HEALTH, AND ON THE

INFLUENCE OF GIVEN STATES OF HEALTH ON THE CATAMENIAL FUNCTION.—

It is a pretty general opinion that the function of menstruation exposes its subjects, at certain marked periods of their lives, to considerable changes and modifications of sexual attributes ; and that these changes are often competent very seriously to affect the health of women, if not even to determine the value of female life. The stages in the currency of women's lives thus indicated, are principally those of puberty, when the function is first established, and of the climacteric or critical age, when it is usual for it to cease and determine.

With respect to the influence of puberty on the health of adolescents, it is an important fact, which admits of no dispute, that the peculiar change which then takes place in the constitution of the female, including the establishment of the menstrual function, is, with a few rare exceptions, a crisis FAVOURABLE to her health. If by reason of any organic disqualification or of any presumed condition of incompetency on the part of the constitution to promote or to admit of the sanguineous fulness and improved actions of life, which we observe usually to supervene at the age of puberty ; if from these or other causes the catamenial function fails to be instituted, or is instituted, to be afterwards irregularly or otherwise imperfectly performed ; then indeed, AND THUS INDIRECTLY, menstruation may be supposed to have an unfriendly influence upon the health of its subjects. In a majority, however, even of these cases, the imperfect performance of the function should, in common with its accompanying circumstances, be considered rather as an effect of other causes than as itself the cause of the diseases and predispositions to diseased actions which are usually attendant upon it. Wherefore, we find that the advent of puberty is more frequently the harbinger of improved health, and in fact a crisis decisive of the remission or disappearance of some of the most formidable maladies to which the human female is subject. If, in the ordinary proportions of deaths of females which occur at the age of puberty, any should appear to be imputable to the influence of some failure or imperfection in the performance of the function of menstruation, it would seem almost demonstrable that such influence must be very inconsiderable. It is even doubtful whether the life of the female, at this period, be not quite equal, if not superior in value, to that of the male at the corresponding period of his characteristic developments. It is a fact which has been long established, that, notwithstanding an absolute excess, by about five in a hundred of male over female births, there actually exists at the same time, in all countries which have been long inhabited, a greater number of females than of males. Black's Analysis of Diseases and Mortality, p. 24. *Topographie Médicale de Paris*, par C. Lachaise, p. 214. "It is evident," observes the talented Actuary of the National Debt, "that this is a consideration of very great consequence, for if there be a substantial difference in the rate of mortality to which the two sexes are severally liable, it follows as a self-evident truth, that a rate of mortality resulting from observations on both sexes indiscriminately can be applicable to neither, being too much for one and

too little for the other." "That there is such a disparity is a fact within the familiar observation of all. In every census there are found alive many more females than males, while in the births and baptisms for every town, district, or kingdom, there is invariably produced at least 105 boys for every 100 girls. The lesser mortality of females was known to M. De Parcieux; but he was unable to assign the precise magnitude of the difference, except in regard to the monks and nuns. Four years previously it had been made public by M. Wm. Kersseboom; who, however, disregarded the difference in the general table of mortality which he sent forth. His data exhibit, from the experience of many thousands, the mean duration of male children distinct from that of females; and those infants must of necessity have commenced existence two centuries ago. With a slight correction the result may be briefly stated thus: If there were ten classes of children at each age, the first under one year old, the last aged nine; and if the mean duration of life, which it was found each individual in a class had ultimately attained, were separately set out, the sum of the existence obtained by ten boys would be 369 years, and that of girls 402.5. In certain observations on the separate mortality of males and females at Chester, as set forth by Dr. Price, the same circumstance occurs. Taking the total existence of the first ten ages as before, there is for the boys 394.9 years, and for the girls 441.62. Yet Dr. Price, in like manner, disregarded the disparity. In other observations, taken at Montpellier, the fact was once more affirmed: the existence of ten males, as before, being 396.79 years, and of ten females 424.69. Again, on the whole population of Sweden, it was in like manner established; ten male children having 447.63, and ten females 471.26 years: and lastly, two additional tables have very recently appeared, showing the mortality of males and females respectively, both for the city of Amsterdam and the city of Brussels, for the males 397.97, the females 412.95. So that if the existence of the male children be represented in each of these six instances by the number 100,000, that of the females will by proportion stand as under; viz. anciently in Holland, 109,079; at Chester, 111,831; at Montpellier, 107,031; in Sweden, 105,279; in Amsterdam, 112,005; in Brussels, 103,764. All these results, it will be remembered, except the first, are founded merely on statistical data. But the superiority of female life is evident in every instance." Finlaison's Reports on the Evidence and Elementary Facts, on which the Tables on Life Annuities are founded, p. 17. Lond. 1829. In reference to the results of his own calculations, "it is hoped," observes that gentleman, "that the annexed observations will remove all doubt whatsoever on that subject." They demonstrate that except under the age of twelve, and above the age of eighty-five, extreme periods in which perhaps no distinction of mortality is apparent, there is at every other period of life a remarkable and decided advantage in favour of the female. This is first most evident about FOURTEEN, after which the mortality among the female sex is observed to proceed onwards to the age of fifty-five, with the slightest imaginable increase, contrary to many received

notions that child-bearing and nursing entail on this sex a severe mortality in early life; and that in the earlier stages of the decline of life they are also subject to many casualties; all which is utterly disproved by the fact. It is not true, but quite the contrary, therefore, that married women incur greater danger than the single; and reasonably may this conclusion be admitted, when it is considered that the married are in the first instance, in regard to health and strength of constitution, always the elite of the whole sex, the unhealthy not choosing to marry. After sixty, the female mortality advances more rapidly; but is always, until the age of eighty, at least, very decidedly less than that of the males." So much for the general fact of the excess of mortality at all ages, with the exception just stated, of males over that of females. But it may be observed that such excess, as to general result in favour of the value of female life over that of the male, might nevertheless very well consist with the truth of the commonly-received opinion as to the unfriendly influence of the catamenial crisis incident to the establishment of the function of menstruation on the health and lives of women; inasmuch as the very crisis in question, though disadvantageous or even fatal to a few, might nevertheless to the many be made the means of improved health, and of a longer tenure of life. Of the reality and amount of effect, if any, of this earlier crisis upon the health and lives of females, there are scarcely sufficient data existing to warrant any very positive statements. At the respective ages of puberty in both sexes, as well as during every other portion of life's progress, the average rate of mortality as given in Mr. Finlaison's tables is greater, as has been already seen, in the case of the male than of the female sex. In a chart which gives at one view the rate of mortality of both sexes, and at all ages of all the government annuitants, recently constructed by Mr. Finlaison, we may observe somewhat more of approximation between the rates of mortality of the sexes at and about the age of puberty in the female than at any other period of life. But even at that period the rate of mortality of the female annuitants presents a manifest inferiority to that of the males; whereas at the period of puberty in the male subject, the difference in favour of the female becomes still more striking. "Among males, on the contrary," observes Mr. Finlaison, "after the age of fourteen, a remarkable mortality occurs, which rapidly advances till the age of twenty-three." Reports, p. 18. How far this latter result may be imputed to any peculiar state of constitution incident to the male at this period of life, and possibly dependent on the absence of a functional source of security against congestive disease, such as menstruation furnishes for the female, or to the greater opportunities which the male possesses, and of which unfortunately he then too frequently avails himself, of becoming a party to habits and practices exceedingly unfriendly to the best interests of his health and constitution, it seems difficult to determine. It is obvious to observation, that the lives of beneficial annuitants must be those of persons at least in comparatively easy circumstances, and therefore so far administrative of the

means of excesses to the male members of such associations, excesses which are happily forbidden to females by the usages of good society. Add to this consideration, that the period of life here referred to, is that during which the youth of the male sex, in conformity with the more public and more robust destinies of that sex, are accustomed to embark in the pursuits of war and commerce, and to migrate from their native residences and climates for the prosecution of all sorts of speculations and adventures.

Some other peculiarities incident to the lives of the Government annuitants, and the fact especially of their being select lives, may possibly admit of some variations as to results from what might be afforded by an equally correct computation of the average rates of mortality of the two sexes, deduced indiscriminately from authentic assessments of the entire mortality of a country. In the mean time, Mr. Finlaison, on this very point, makes the following important remark: "There remain in this discussion still more than one or two questions, which however are of considerable importance; but they cannot be propounded on the present occasion without much further inquiry, although they are, and as I hope will yet be found, capable of complete solution. The most interesting is that of the degree, if any, in which picked and chosen lives, such as those presented at an assurance office, are superior in longevity to the rest of the same rank in society from among whom they are so chosen? Without entering on this question, I may venture to state concerning it, that no small pains have already been taken to arrive at certainty; and if a mere opinion, founded on what has yet appeared, be worth notice, it is this, THAT THERE IS VERY LITTLE IF ANY ADVANTAGE AT ALL IN FAVOUR OF SELECTION." Reports, p. 19. It seems, however, to the author more than probable, that the objects here referred to cannot be ensured until great improvements shall have been made in the business of statistic registrations. Subsequently to the publication of Mr. Finlaison's valuable report, the Directors of the Eagle Assurance Association have introduced a considerable difference in the purchase price of their policies in favour of the supposed greater average value of female life. This example, it should however be stated, has not been followed by any other life assurance society. The calculations of the rates of mortality of the Government annuitants must be considered as especially valuable in its application to the current part of our present inquiry; inasmuch as they exhibit on an extensive scale the comparative value of the lives of the associated members of both sexes taken at parallel ages, but originally registered in a great number of cases at ages so early as long to precede, and therefore necessarily to include the period of puberty in the female. The results of these calculations are such as to induce us confidently to believe that the developments incident to that period, inclusive also of that of the establishment of the important function of menstruation, then for the first time instituted in the female system, so far from being morbid and dangerous in their influence, are circumstances of positive value and advantage to the healths and lives of women.

As to the influence of the later or climacteric crisis on the life of the human female, there appears to prevail a still more general impression than in the former case, that it involves a period of great danger to the lives of its subjects. It is no doubt an interesting fact, that nature at this season has to perform an important work for the ultimate benefit of the sex; and we know that a period of several months is generally occupied in its performance. If we duly consider the actual amount and variety of the concurrent circumstances which usually combine to effect the required object; e. g. the reduced diameter and change of action which must take place in many hundreds, perhaps in thousands of living tubes; the congestive accumulations of infiltrating fluids, which might be naturally expected to press very inconveniently upon organs and tissues contiguous to the uterus; numerous reactions of distant parts consequent upon the impeded momentum of the currents of blood heretofore transmitted to the menstruating viscus; the required subduction of endless trains of associated actions, connected by habit, community of structure, or functional sympathy with the organ now about to be deprived for ever of one of its principal attributes; the natural tendency to a plethora of the whole vascular system, or of that of important individual organs, in consequence of so considerable an evacuation as that of menstruation being more or less suddenly suppressed; and finally, the immense force of pressure made upon the vessels proximately concerned in the function, sometimes sufficient to produce alarming lesions of structure, and profuse and irregular hæmorrhages; if we duly consider all these circumstances, and many more might be added, can it seem unreasonable to expect that an epoch in the life of women, rendered thus remarkable by the concurrence of so many clashing elements, should be one at least of temporary disturbance and of partial storms? Such in fact is frequently and pretty generally the case. Some time, a period often of several months, is unavoidably taken up in adjusting differences, and, to metaphorise the facts, in accommodating and naturalising the *ERRORES LOCORUM*, and the disturbed movements of the system to their new relations. Thus, indeed, a crisis in the female constitution does take place on the retirement of the function of menstruation, which often proves of sufficient consequence to create great interest, and occasionally to excite much temporary alarm. Eventually, however, in most cases, this work of nature, being carefully elaborated, and the means being well-accommodated to the ends, is completed agreeably to her own intentions, conservatively of the best interests of the individual. The physical character of the individual undergoes its destined change; but by the change, the remaining interests and pleasures of life are rendered more uniform and durable. The principal questions then for our consideration in this place are, whether and on what scale of proportion women sustain any eventual detriment either to health or life from the accession of their climacteric or second constitutional crisis? It is much to be regretted that adequate materials for finally determining these points do not actually exist. If we might appeal to the vague impressions of medical men, partly derived from reading, and partly from the

uncertain recollection of results of cases, we should certainly come speedily to the conclusion, that the period in question is one of great danger to female life. Incident to the changes to be then sustained, some considerable disturbances, as we have just seen, are to be expected to take place; and when fatal or dangerous diseases happen to make their first appearance, or to become established in the system about the same period, it must be acknowledged, that many of them are observed to be of a sexual character, and to depend upon lesions of one or more of the sexual organs. After making this almost unnecessary concession, it still remains to be proved, that women are liable to a greater rate of mortality at this period of their lives than the other sex at a corresponding age, or that they are themselves subject TO A HEAVIER AVERAGE OF MORTALITY at the time of cessation of the menses, than at any other period, whether within a few years anteriorly or subsequently to that epoch. The best documentary evidence which is accessible to us on this subject, is to be found, as in the other case, in the excellent reports of Mr. Finlaison. If in reference to certain points of pathology, more immediately interested in the present inquiry, they are not so complete as we could have wished they had been, the deficiency is to be ascribed to paucity of materials, and especially of such materials as the more experienced members of our profession could alone have had it in their power to supply. The author trusts, that this statement, by which he feels himself more deeply inculpated than many of his neighbours, may receive the earliest practical consideration of his brethren, and especially of such of them as are officially attached to the more considerable hospital establishments of our country. From sources thus ample, the facts required for the formation of a most accurate comparative necrology of the sexes, at all ages, as well as supposed critical periods of life, might be speedily supplied. The principal facts to be noted in such registrations, would be the ages of the patients with all attainable precision; their states of health in early life; their age on the accession of puberty and of the establishment of the catamenial function in the female; state of health subsequently to that epoch; whether married or single; date of marriage; whether any and how many children, and what proportion living; predisposition of the family to what diseases, if to any; of the ordinary duration of life of parents and other deceased members of the family; name, date, and duration of the present disease; date of recovery, and whether perfect or imperfect; if the latter, the supposed subsequent state of the viscus or viscera principally affected by it; moral habits; special notice of sexual maladies; and finally, date and any remarkable circumstances of fatal event. Correct records of these and similar facts, on an adequately extensive scale, would enable us in a very few years to make most important contributions towards the improvement of medical statistics, a service there is no doubt which could not fail to be deeply interesting both to the philosopher and to the political economist.

In what we have further to state on the subject of our present inquiry, we have almost exclusively to depend on the calculations of Mr. Finlaison. The

reader has already seen, that according to the observations of that gentleman, the period of cessation of the menses is not loaded with any marked excess of mortality. "This advantage in favour of female life," he remarks, "is first most evident about fourteen, after which the mortality in the female sex is observed to proceed onwards to the age of fifty-five with the slightest imaginable increase." For so many of the results of Mr. Finlaison's operations, as are applicable to the crisis which is supposed to take place in the female constitution at the commencement of its decline, the author is indebted to the personal favour of that gentleman himself. The following calculations of the rate of mortality of the government annuitants are made on a scale of 100,000 lives of members of both sexes and of all ages. The results, which are especially illustrative of the immediately current part of our inquiry, are distributed into three epochs of five years each, inclusive of the median line of life in both sexes, and in the female of the period of cessation of the menses. During each of these epochs, the rates of mortality of each sex are given as follows in their respective progressions. Out of 100,000 members alive of all ages, there will die in the five years after the age of 35, i. e. between the ages of 35 and 40, the latter inclusive, of males 7,042, and of females 5,738; in the five years after 40, i. e. between the ages of 40 and 45, the latter inclusive, there will die, of males 6,959, and of females 6,889; and after the age of 45, i. e. between the years of 45 and 50, the latter inclusive, there will die, of males 10,381, and of females 7,714.

The reader will please to observe, that in each of these several periods, there is a positive excess of deaths of males over those of females; but that in the middle series, viz. that between 40 and 45, which in the female includes within its extremes some few cases of early retirement of the catamenial function, but in the majority, the period of dodging preparation for the final cessation of the menses, the excess in question is much less than in either of the other two series. Of the correctness of these calculations, as applied to a class of select lives, there can be no doubt, as there is no room for error. But the author cannot properly dismiss the subject without adverting to certain other calculations very recently published at Brussels, by Messrs. Quetelet and Smits, in a pamphlet entitled *Recherches sur la Reproduction et la Mortalité de l'Homme aux différens Ages et sur la Population de la Belgique*, 1832. A government order was issued in 1828 for a census of the entire population of Belgium, with directions that it should include returns of all the births, deaths, marriages, and changes of residence of the people during every year, and accompanied by an intimation that a similar assessment would be ordered for every ten years. The order for the first census was carried into effect towards the end of the year 1829. It is a peculiarity of this assessment that it has furnished distinct tables of results on all the points which it was charged to report upon for two classes of population, viz. for residents of towns and for those of country districts. Now it happens that, on these separate returns for the towns and for

the country districts, its reports of the mortality of the different sexes exhibit a most extraordinary discrepancy with all former results on subjects of this kind. In Messrs. Quetelet's and Smits' returns of the country mortality, the female deaths present an excess over those of the males during the three series of years corresponding with those just quoted from Mr. Finlaison's reports, in the proportion of something more than 24 to 18. Making 100,000, as in Mr. Finlaison's calculations, the numerical basis of their operations, the comparative mortality of the two sexes for the country districts of Belgium, as given by Messrs. Quetelet and Smits, are as follows; viz. out of 100,000 persons of both sexes alive, the rates of deaths within the five years between the ages of 35 and 40, the latter inclusive are, of males 4,681, and of females 8,071; in the five years between the ages of 40 and 45, the latter inclusive, of males 5,975, and of females 8,536; and in the five years between the ages of 45 and 50, the latter inclusive, of males 7,692, and of females 8,056. Thus we see represented a most remarkable excess of female mortality in the country districts of Belgium; whereas in all the towns of the Netherlands, the returns would seem to correspond at least in principle with what has hitherto been considered in the light almost of a general law of mortality. Accordingly out of 100,000 inhabitants of the towns of Belgium, the rates of deaths in five years after the age of 35, i. e. between the ages of 35 and 40, the latter inclusive, of males 7,189, and of females 7,679; between the ages of 40 and 45, the latter inclusive, of males 8,894, and of females 7,153; and between the ages of 45 and 50, the latter inclusive, of males 8,678, and of females 8,062; giving a total of mortality for the three series of years together of 24,761 males and 22,894 females. But the excess of the mortality in some particular towns of Belgium very greatly surmounts the average results of Messrs. Quetelet and Smits. The author is indebted to the further kindness of Mr. Finlaison for the following quotation from a table of the average mortality of Ostend, constructed from the best possible materials by that gentleman himself, whilst recently residing temporarily in that town. For the convenience of an accurate comparison with the results of the foregoing calculations, the operation is given on the same numerical scale of 100,000 lives. With that understanding, the rates relatively of the male and female mortality at Ostend, during the tract of years intermediate between the ages of 35 and 50, as made out by Mr. Finlaison, and believed by him to be scarcely liable to the possibility of error, is as follows:—Out of 100,000 souls of both sexes and of all ages the rates of deaths after 35 years of age, i. e. between the ages of 35 and 40, the latter inclusive are, of males 8,041, and of females 6,665; between the ages of 40 and 45, the latter inclusive, of males 11,107, and of females 7,094; and between the ages of 45 and 50, the latter inclusive, of males 13,079, and of females 8,188. From these results it follows, that the difference in the value of life in Ostend against the male and in favour of the female, at a period of life, inclusive in both sexes of the commencement of its decline, and in the female of the cessation of the menses, is in the very remarkable proportion of 32 to 21.

Before concluding this part of his subject, the author thinks it right to call his reader's attention to some statements and references of M. Desormeaux, in general confirmation of the same views with his own ; but without being able to give an opinion as to the amount of value of the documentary evidence, the existence rather than the precise facts of which he quotes. "The epoch of the cessation of the menses, commonly called the critical age, is ordinarily considered as a period of great danger to the sex. For a long time past, however, some of our ablest practitioners have considered the fears entertained on this subject as exaggerated and unfounded, and have believed that this retirement of the function is a natural phenomenon ordinarily exempt from accidents ; that in the cases of many women, and especially in the instances of women of feeble constitutions, whose menstrual evacuations had been too abundant and in apparent disproportion to their strength, it is even an earnest of the commencement of better health. Learned men, who have sought to establish laws of mortality for different periods of life, have found nothing among the sequels of death indicative of the ravages of the critical period. Muret, in a work on the population of the Pays de Vaud, observes: "My observations have not taught me that the age of from 40 to 50 is more critical for women than that of from 10 to 20." M. Benoiston de Chateauneuf has taken up these researches, and presented the result of them in a memoir which was read to the Academy of Sciences, in 1818, ON THE MORTALITY OF WOMEN OF THE AGE OF BETWEEN FORTY AND FIFTY." This essay did not appear in the Transactions of the Institute for the year 1818. "This result is indeed so important," observes M. Desormeaux, "that I shall here transcribe its principal facts. 'From the forty-third to the sixtieth degree of North latitude, along a line extending from Marseilles to St. Petersburg, passing by Vevay, Paris, Berlin, and Stockholm, it is a fact that at no epoch of female life from the thirtieth to the sixtieth year are we able to discover any increase in the mortality of women beyond what should be attributed to the natural progress of age : whereas at all epochs of male life, from the age of thirty to that of seventy, we observe a greater rate of mortality of the male than of the female sex. This excess is most remarkable between the ages of forty and fifty. It results from these new observations, that the age of from forty to fifty is more truly critical for men than for women ; and that seems to be the fact whatever be the kind of life they lead, and whether they live in society or in retirement, whether in the camp or in the cloister. Inasmuch, however, as it cannot be denied that a certain number of women die between the ages of forty and fifty, IN CONSEQUENCE OF THE REVOLUTION WHICH TAKES PLACE IN THEIR CONSTITUTION AT THAT PERIOD, a cause of mortality which does not exist in the other sex, what would be their decrement of numbers, already actually inferior to that of the male sex during the same period, and what might be expected to be the strength and duration of their lives, did they possess the additional privilege of not being subject to this law?' " From

the whole of the above observations, the author thinks that he can safely invite his reader to the conclusion that the period of cessation of the menses in the human female, cannot be considered on the average as unsalutary to her constitution; or if in a few cases it be productive of effects dangerous to health or fatal to life, that in a great majority of cases it must have a salutary influence, and is made protective of the sex against the invasion probably of a number of diseases to which it might otherwise be liable. The discrepancies of Messrs. Quetelet's and Smits' country returns with the results of all other published assessments, must be left to be determined by future observations.

From the general conclusion now come to, we are, however, not to suppose that the function of menstruation is not occasionally liable to great irregularities, which sometimes are causes, and at other times effects and accompaniments, of other maladies. The author, indeed, believes that disordered menstruation is much more frequently the effect than it is the cause of other diseases. Disordered menstruation is accordingly very frequently associated with obvious indications of the presence of morbid states of the general system, and of parts of the uterine system not immediately concerned in the performance of the catamenial function. But not only are diseased conditions of distant organs and of remote functional actions competent to embarrass and in many cases to interrupt the due performance of this characteristic function of the human female, but almost all considerable influences incident to the actions of life, and especially such as are productive of violent and morbid effects upon the nervous and sanguiferous systems, are capable of exerting the same power. When, therefore, the cessation of the menses happens to be complicated, or speedily succeeded by symptoms indicative of diseased structures, or of unusually morbid actions, we are generally competent after the death of such subjects to discover causes abundantly sufficient to account for it, independently of any influence incident to the contemporaneous retirement of the catamenial function. There are, indeed, few diseases of any considerable importance or duration which may not affect or be affected by the operations of this function. High-toned fevers accompanied by more than ordinary excitement of the heart and arteries are often greatly alleviated by its accession; whilst however others of a low type, or such as by long protraction have brought the patient into a state of much exhaustion and debility, are usually greatly exasperated or rendered mortal by a uterine discharge, even though it should appear in a very moderate quantity. The re-establishment of the catamenial function, after a temporary suspension of its periods, accompanied by lesions and disturbances of other functions, usually operates as a remedy of the attendant symptoms, and especially amongst others of plethoric vascular congestions and vicarious hæmorrhagic discharges. It is an aphoristic observation of Hippocrates, that "the restoration of suppressed menses is a cure for hæmoptysis;" that special variety of the disease, no doubt, which we sometimes encounter as one of the most formidable among the effects of sup-

pression of the catamenia. Experience, moreover, proves that the restoration of the function, by restoring the healthy balance of the circulation, exerts a similar remedial influence in many other examples of congestive overfulness of the sanguiferous system.

OF THE FINAL CAUSE OF MENSTRUATION.—The final cause of a function is, in scholastic language, its intended use. The peculiarity of the catamenial function, as being an attribute exclusively of the female of the human species, would seem to direct our inquiries on this subject to something peculiar and exclusively adapted for the attainment of some special benefit or distinction of the human female in the object to be attained by it. But nothing very satisfactory has yet arisen from pursuing this line of inquiry. We have not been able to make out that the female of our own species is possessed of any exclusiveness of privilege, or any superiority of position over the females of other animals, merely by reason of her being the only subject of a monthly secretion from the uterus. It seems open to a presumption, that, as being an attribute of a principal genital organ, it has been instituted for some object of a ministerial nature not very obvious to us, but essentially subservient to the ulterior and still more important function of reproduction. But we find that the capacity for reproduction exists in the females of the inferior animals, although they do not menstruate, quite as vigorously as it exists in the human female. It would seem, however, to be a law of the function of reproduction, in all animals, that conception can only take place during the presence of a certain amount of vascular fulness of the organs which are more or less the instruments of it. We accordingly observe that such is actually the fact in the instances of all the species of animals with whose habits in this respect we are best acquainted. The œstrum of the inferior animal is, no doubt, a state of phlogistic fulness of the genital organs; whilst, moreover, it is well known that the animal is susceptible of the influence of impregnation only during the presence of that condition of the parts. In no species of inferior animal, however, does the vascular fulness, incident to the œstrum, present the character of a strictly catamenial fluid, whether we regard the quantity or quality of the subject material of the secretion as we find it produced by the agency of the human function. Making, however, any required allowance for this supposed difference of character in the produce respectively of the analogous functions of the human female and of the inferior animal, it is nevertheless certain that their agency in both cases is accompanied by a vascular fulness of the organs concerned. But there is another fact of still greater importance to the inquiry in which we are engaged, and so immediately bearing upon its issue, that it seems scarcely possible not to make it available for the formation of something like an opinion as to the probable final cause of menstruation; and that fact is, that impregnation scarcely ever takes place either in the human female or in the inferior animal, excepting during the presence of vascular fulness of the generative

organs, productive of the œstrum in the one and of the menstrual nîsus in the other. This uterine determination is indeed to be identified during a certain period of duration, differing probably considerably in different species of animals, with the contemporaneous existence of susceptibility of being impregnated. We have already had occasion to notice the ordinary duration of this function in the human female; or rather we have simply noticed the stillicidious elimination of the secretion as it usually presents itself in the human female. But we have not properly and sufficiently considered the duration of the actual discharge as being only a portion of a more extended period, during the whole of which the female of our species may be presumed to be the subject of no inconsiderable vascular fulness. It is, in fact, to the existence of such vascular fulness, a fulness accessional to the still greater degree of plethora which we must suppose to be present during the actual discharge, that we must chiefly determine our attention, if we hope to discover even a clue to the ascertainment of the final cause of menstruation. It is, probably, during the presence and influence of the accessional vascular fulness in question that the human female is principally if not exclusively susceptible of impregnation. Whether or how far the stillicidium of the overt discharge might operate as a preventive of conception during that part of the time incident to the nîsus of menstruation which it occupies, there are no recorded and probably no existing facts to prove; while on the other hand we have the evidence of all that is positively known or recorded of the history of the function in favour of the general fact, that the impregnation of the human female really does take place in the positive absence of the actual stillicidium; i. e. in a small proportion of cases immediately before its appearance; but generally, and in good keeping with the timid and modest habits of the sex, SUBSEQUENTLY TO ITS ABSOLUTE RETIREMENT. In other words, we may safely presume that conception takes place in the female of our own species, not during the elimination of the actual produce of the function, which it is not improbable might not be practicable; but nevertheless, subsequently, DURING THE CONTINUANCE OF A SUFFICIENT AMOUNT OF VASCULAR CONGESTIVENESS AND PHLOGOSIS TO ENSURE THE PRESENCE OF THE REQUIRED SUSCEPTIBILITY OF IMPREGNATION. If we assume the probable correctness of this view of the subject, our immediately proximate inference might be, that human conception is effected in circumstances nearly equal as to degree of vascular fulness, to what we may presume to be present during the œstrum or period of susceptibility of impregnation in the female of the lower animal. But if this apparently striking analogy among some of the more remarkable phenomena incident to a kindred function, which in some other respects might seem peculiar and distinctive of different orders of subjects, be really any thing more than a gratuitous assumption, we might, perhaps, be permitted to entertain at least a presumption of the identity of their final cause. In the one and the other case we observe that the functions are sexual. They belong to the same sex, and are attributes relatively of the same functional organs. They

are governed by similar laws, and obedient to the impressions of similar influences. They have their periods of original commencement suited respectively to the ages and developments of their subjects, as well as those of their subsequent returns, their allotted duration fitly proportioned in different species to the natural duration of the capacity for reproduction, and with the extinction of that power they totally cease. It is, therefore, probable that both in the human being and in the animal they are bestowed by nature for the common purpose of qualifying their generative organs for their common function of generative reproduction.

OF THE DISEASES OF MENSTRUATION.—The lesions of this function are its absence, from its not appearing at the proper age, technically called *emansio mensium*; its suppression, in like manner from its being suppressed after its first appearance, called *suppressio mensium*; its excess as to quantity of secreted fluid, constituting *menorrhagia*; its painful and imperfect performance aptly designated *dysmenorrhea*; together with several varieties of morbid secretions of the genital organs, called *leucorrhea* or *fluor albus*.

OF EMANSIO MENSIMUM.—The ordinary period for the first appearance of the menses, as was stated in a former page of this work, is about the age of fourteen. If by reason of delicate constitutional health, or of natural or personal disqualification of any kind, the function be not established at or soon after that period, an assemblage of symptoms supervene, which together have received the designation of *chlorosis*. *Emansio mensium* properly expresses the fact of a long tarrying or delayed appearance of the menstrual function. It is most frequently used more comprehensively, as including also the morbid symptoms attributed to its absence or non-establishment. In this sense it comes to represent a variety of morbid states, both of the general system and of the genitals, and approaches in its extent of signification to that of the term *chlorosis* or green sickness. The latter designation is derived from *χλωρός*, which signifies green; and which by some writers is supposed to have been first used to express the sickly colour of the complexion, and by others that of morbid discharges from the genitals which are supposed to be sometimes secreted by the uterus vicariously to that of the healthy function. Under our present head of subject, we shall treat of the non-appearance of the discharge as simply accidental, and as forming only a part of the more general disease of the individual unfortunately become the subject of it. *Emansio mensium*, in its more extensive acceptation, may be understood to represent a feeble condition of many of the functional attributes of the system, added to the absence of menstruation. The absence of the catamenial function is only one item, and often not a primary one, in the general sum of bad health. There is a paleness and muddiness of complexion, in some cases an imperfect development of the figure, and in others, a degree of fulness and obesity of the subcutaneous tissues, but associated to a colour and

an expression of countenance too indicative of a feeble action of the powers of life. The colour of the integument, indicative of a chlorotic state of the health, has been aptly enough compared to that of young people infested with intestinal worms, and is perhaps mainly to be attributed to the operation of the same general cause; viz. perversion or deficiency of the power of digestion. The chlorotic state is often therefore to be identified with imperfect functional actions of the chylopoietic viscera; the non-appearance of the menstrual secretion being to be ascribed to paucity of blood in the system, as much as to the want of sufficient power and development, depending perhaps primarily upon the same proximate state of the genital system. Allied to this chlorotic condition of the female, by reason of which the menstrual function in some cases fails to be instituted, is a certain analogous state of the health in males, which by some writers has been identified with, and actually called chlorosis. It seems indeed probable, that in a majority of cases, in which we observe retention of the menses to be complicated with constitutional chlorosis, the non-appearance of the menses may be a result, in common with many other varieties of atony or depravities of functional actions in the system, of very early derangement of the digestive organs. It was the opinion of Hoffman, that chlorosis should be defined to be a gastrico-hectic fever, inductive of a state of great debility, produced by derangements of the function of digestion, and accompanied in females by retention or suppression of the menses. Of the gastric origin of chlorosis, there are many circumstances of obvious importance which would seem calculated to induce us to recognise at least a great apparent probability. When a young woman becomes the subject of chlorosis, we have disturbances of the gastric functions among her earliest symptoms. If the non-appearance of the menses be obviously an effect of constitutional atony, the history of the patient will in most cases develop to us an antecedent consecution of dyspeptic sufferings of several years' duration. The accompanying affections of remote organs, as of the head for example, are moreover such as are usually recognised as symptoms of dyspepsia. Whether we suppose the chlorosis, as often happens, to be a constitutional condition of long duration, derived from errors committed in the nursery, or imputable to the influence of poverty and destitution in early life, or whether it be the effect of a painful and powerful impression in the midst of vigorous health, made more or less suddenly on the mind or on the nervous system, or on the sanguiferous system, or on the temperature of the body, or in short upon any of the more important functional actions of life, we may almost always observe that derangements of the digestive organs are sure to present themselves among the first movements in the general disturbance. If these remarks are well founded, it follows that chlorosis and retention of the menses are equally effects either directly or indirectly of morbid conditions of the chylopoietic organs. After this explanation, we proceed to describe briefly the ordinary symptoms of retention of the menses complicated with chlorosis. The first series of symptoms are those of dyspepsia, great languor in the exercise of all the faculties, both

of the body and mind, and great repugnance to motion or changes of circumstances of any kind requiring bodily exertion. As the disease advances, the period for the institution of the menstrual function having perhaps already lapsed without the occurrence of the wished-for change, pains of the back, loins, and thighs, sometimes of the ankles or other joints, are added to the gastric disturbances. Upon these symptoms, the characteristic expression and complexion of the countenance, and the usual puffiness of different parts of the integument, are observed to supervene. In the morning, this slight turgescence of the subcutaneous tissue occupies principally the face, and especially the eyelids, and parts immediately adjacent. In the midst of this fulness, however, the eye itself moves languidly when it moves at all. The skin, which perhaps had once presented the hue of moderate health, and subsequently a degree of paleness indicative of an increasing delicacy of constitution, exhibits in the sequel the remarkable admixture of paleness and dinginess which always attends and which therefore is necessarily a pathognomonic symptom of a confirmed stage of the disease. In some cases the natural complexion changes progressively from bloom to paleness, and from paleness to a leaden greenish or sallow brownish hue, approaching to that of jaundice. It should however be observed that the peculiar dinginess of the skin is essentially different from the characteristic colour of it in jaundice, and that it may be always distinguished from the proper complexion of jaundice by its not affecting the sclerotic coat or, what is called, the white of the eye. The ankles, and in some cases the entire surface of the body, are affected by œdematous infiltrations towards evening, producing an obvious fulness or swelling of the parts affected; which, however, is observed to disappear during the night. Chlorotic girls often complain of pains and of a sense of tension in the hypochondriac regions. They are sometimes much addicted to gaping and yawning, which they cannot suppress even when in company. They experience generally a feeling of torpor, accompanied by a painful sense of stiffness of the lower extremities. They have, moreover, a great propensity for sleep and especially for rest in every form. Their digestion is difficult, and attended with distressing headaches, with a painful sense of weight and fulness at the scrobiculus cordis, and often with an intense heartburn. Sometimes the appetite becomes depraved, inducing the patient to wish for ingesta, which at any other time would be considered as exceedingly repugnant and improper. At an advanced stage of the malady, hectic fever supervenes, which rapidly undermines the strength, and brings the subject into a state of great depression of all the powers of life. At this period the slightest attempt to make an exertion of any kind induces great difficulty of breathing and palpitations of the heart. In persons susceptible of strong nervous impressions, faintings and hysteric affections are not uncommon occurrences. Associated with other indications of the same temperament may be noticed the frequent accession of sharp pains, of probably a neuralgic character, of different parts of the body, but especially of the surfaces about the face, neck, and head. Some also complain of deep-

seated tensive pains in the globes of the eyes. Many chlorotic girls are exceedingly tormented at nights by frightful dreams; whilst in the day they are the constant victims of distressingly low spirits and moping melancholy.

Having premised these few remarks upon chlorosis as an accompaniment, and as in some cases indirectly a cause of retention of the menses, we now proceed to consider the absence or non-performance of that function in a more general point of view, and as a more comprehensive subject of inquiry, without feeling obliged to carry with us throughout the whole of the discussion the technical distinction of amenorrhea into retention and suppression; that distinction being exclusively founded upon the mere accident of the malady presenting itself either before or subsequently to the establishment of the function.

The proximate cause of amenorrhea is in a great measure a mystery to us; nor can this be a matter which should excite our surprise, when we consider the fact, that we are also equally ignorant both of the proximate and occasional causes of the function itself, of which the non-performance constitutes the essence of the disease. The more obvious conditions of the function are, first, a periodical determination of a greater quantity of blood to the uterus than is necessary for its proper supply without waste, and on the scale of the ordinary supply, as determined to other parts of the body; and secondly, a specific action of a part of the vascular tissue of that organ, perhaps the ultimate ramules of its arteries, see p. 259, by which a part of the blood so determined, after however undergoing some change, is permitted to escape out of the uterine cavity into the vagina. Now these are the essential conditions of the function; and if we suppose the abstraction of either or both of these conditions, amenorrhea would of course be the consequence. Hence in a practical descriptive history of the morbid phenomena of menstruation, we may perhaps be permitted to predicate generally of the proximate cause of its non-performance, that its elements are essentially either the absence of the material of the secretion, or some morbid disqualification on the part of the discerning tissue of the uterus, to make the material, when presented in sufficient quantity, available for the purposes of the function.

The predisponent causes of amenorrhea are generally such as may be considered promotive either of feeble constitutional powers, which we usually observe associated with retention, or of quick sensibilities to morbid impressions, which we may venture to identify with the probable amount of predisposition. The list will therefore contain all debilitating causes likely to occur in early life, such as deficient supply of milk, the natural food of infants during the first weeks and months of their existence, deficient or improper food of other kinds during the earlier years of life, exposure to bad management generally during the period of nursing, a cold moist and marshy climate, confined and crowded residences, deficient clothing, whether from poverty or from absurd prejudices of fashion, tambouring, lace-making, wool and cotton carding, and excesses and early depravities of all kinds. Morbid suscep-

tibilities to impressions are partly constitutional and hereditary, and partly to be ascribed to errors of moral and physical education.

The occasional causes of amenorrhea are cold suddenly applied, what in this country is emphatically but not very correctly called catching a cold; the exposure of the person in a state of inactivity and not adequately clad for too long a time to the action of a cold atmosphere; a sudden change from a warm to a cold atmosphere; immersion of the body or part of the body during the presence of the catamenial secretion in cold water, or drinking in similar circumstances cold fluids; losses of blood by hæmorrhages or unnecessary and mistimed bleedings; discharges from wounds sores or any other sources; severe cutaneous eruptions; local irritations of any kind, whether produced by diseased actions or by medicines; inflammatory congestions of blood in parts remote from the uterus; febrile disturbances of all kinds; accidents from falls, blows, loss of balance or quick movements of the body; gastric embarrassments from whatever cause; great personal exertions when not accustomed to the use of them; strong mental impressions from frights, paroxysms of anger, sorrows for great and sudden losses of friends or fortune; the more silent regrets incident to gradually sinking circumstances; disappointed hopes, and especially disappointed love. The concurrence of predisponent and occasional causes is by no means necessary to the production of either form of amenorrhea. If the predisposition be great, amenorrhea may take place without the interposition of any occasional cause; whilst on the other hand, if the occasional cause be one of a violent character or of considerable duration, it will produce the effect of suppression of the catamenia in the perfect absence of predisposition to it. The efficiency of an occasional cause must be presumed to depend, in no small degree, upon the period of its application relatively to the period of the function. If, for instance, the nîsus of menstruation be present, or on the eve of manifesting itself where an exciting cause of disturbance of sufficient magnitude is applied, the effect will follow; whereas on the contrary a cause of much greater magnitude may be applied with impunity at a nearly median period between two menstruations. In the greater number of cases of amenorrhea the disease is of a chronic character, and can seldom be relieved or cured without a gradual amendment of the constitutional powers; but suppression of the function, when previously vigorously performed, is most frequently the effect of some known occasional cause, and is generally observed to be accompanied by constitutional symptoms of considerable severity and acuteness. The concurrence of influences from each class of causes, or the exclusion and amount of effect derived from either, may generally be pretty accurately determined by the symptoms or special circumstances of cases which will be reported or otherwise accessible to the physician during his first interview.

The symptoms of amenorrhea might furnish the materials of a long catalogue. The following are amongst the most important: The suppression is almost always preceded or accompanied by a sense of pain and heat in the hypogastric

and lumbar regions, and with that of increased magnitude and weight of the organs within the pelvis, accompanied by acute darting pains of the uterus itself, increased fulness of the abdomen, and occasionally by painful tension of the breasts, and a distillation in a few cases of a minute quantity of a serous milky fluid from the nipple. The author is not sure that this latter incident ever presented itself to his observation, except in the instance of women who had been mothers of children. The above symptoms are much more urgent and striking when the suppression takes place suddenly, and when the existing cause produces a violent effect, than when, the cause being feeble or progressive in its influence, the disease is more slowly established. They are moreover more acute and formidable, when the cause of disturbance is applied at the commencement than at an advanced stage of the progress of a menstrual period, as also in cases where the secretion is abundant than in those where it is usually sparing in quantity. Added to the few symptoms just enumerated, which are essentially pathognomonic, and therefore common to all cases, there are often present many others of equal intensity and equal importance to the ultimate issues of the case. These are the protëiform symptoms incident to fevers and to congestive inflammations, pains of different organs and regions, heat and dryness of skin, thirst, intense headaches, sickness and vomiting, suspended or vitiated actions of the discerning organs, disturbances in the lymphatic system, hæmorrhages from the nose, rectum, and other outlets. Then follow the almost endless results of suppressed menses; viz., first and foremost, obstinate disturbances of the chylopoietic organs; the immense assemblage of symptoms abstractedly represented by the term chlorosis; various morbid affections of the nervous system, including hysteria, St. Vitus' dance, epilepsy, mania, &c.; glandular tumours and other distressing results of obstructions in the lymphatic system; jaundice and other evidences of obstructed tubes and torpid action of the liver; painful swellings of the joints; dangerous erysipelatous inflammations; great dryness and asperity of the common integument in some cases to a degree of scaly leprosy; a disgusting growth of a masculine beard on the female face, some time before an index of the softer graces and gentler virtues of the sex; periodical determinations of blood to the head, the lungs, kidneys, &c.; divers formations within the cavity, together with chronic inflammations, infarctions schirrous, and carcinomatous indurations of the proper substance of the uterus terminating in malignant ulcerations of its tissue, rapidly to be propagated to its adjoining and satellite organs; so as finally to involve in one common destruction all that is structurally sexual and distinctive of the patient and interesting being, whom, after all, it is the pride and happiness of man to recognise as the rightful object of his affections, as his best and truest friend and his most faithful companion during life's devious journey.

Such is a rapid but comprehensive sketch of the symptomatology of amenorrhea. It is indeed a melancholy picture of the stages and possible issues of the disease. Happily, however, it is a crowded abstraction from the general history

of disordered menstruation as it has presented itself in a thousand subjects, rather than a real picture, whether of consecutive or associated miseries incident to any particular case. At most it can only be the history of individual sufferings, and not a description of the lot of all nor even of a considerable number of the sex to which it applies. It is almost a casualty in female pathology. It is a speck on the surface of a variegated orb, and is as dark as it well can be; but it is nevertheless only a speck. Woman like man is mortal; but Mr. Finlaison, it is presumed, has sometimes since convinced the reader, that notwithstanding her liabilities to some few exclusive and sexual perils, she yet enjoys, on an average scale of her privileges, the remarkable one of a longer duration of life than that of her more powerful protector and companion.

In illustration of a few of the facts introduced into the foregoing sketches of the symptomatology of amenorrhea, the author thinks it may be useful to append a few briefly-narrated cases for the reader's present perusal, with a list of references to a greater number. A young lady, very carefully nursed and brought up by an intelligent mother, arrived at puberty at fifteen years of age, when however she did not menstruate. For two years afterwards she enjoyed a very good state of health. But at seventeen she began to become the subject of a teasing cough, which, continuing for many months, greatly alarmed her mother. She gradually lost her appetite, became chlorotic in her appearance, and depressed in her spirits. On her return from a ride in Regent's Park, her father, who had accompanied her, observed her pocket handkerchief soiled with blood. On reaching her own bed-room, which, by reason of a short breathing, usually an attendant on a state of chlorosis, she found it not easy to do, she voided by expectoration about two ounces of apparently arterial blood. On this occasion the author was requested to visit her for the first time. Her cough was dry and frequent, but not severe. She had no pain of her chest, nor had she ever complained of any; but spoke of a somewhat unpleasant sensation, scarcely a painful one, at about the middle of her larynx. Her pulse was frequent, rather small, and not quite regular, and there was then, but not always, a considerable palpitation of the heart. The bowels were disposed to constipation, but had been kept in a satisfactory state by medicines administered by the mother. Some other medicines, chiefly squills, had been prescribed and taken for the cough. About three months before the author's visit a slight discolouration of the patient's bed-linen had been observed on one occasion. There was present a considerable amount of marasmus. At different times the alvine evacuations had been deficiently coloured with bile; and the functions of digestion were represented as having been generally considerably disturbed. The treatment was simple, but speedily successful. An emetic, consisting of a grain and a half of tartarised antimony and a scruple of ipecacuanha was prescribed, and desired to be taken immediately, and ten grains each of blue pill and of the compound extract of colocynth were ordered to be taken at bed-time, and to be repeated every alternate night until countermanded. A large blister was applied to the throat.

On the following day the patient commenced a course of chalybeate medicines. The form prescribed was an ounce of the carbonate of iron and a scruple of powdered ginger. This quantity was divided into six papers, with directions that the contents of one should be taken three times a day. In this way an ounce was taken every two days. The patient experienced a slight return of her hæmoptysis in about a week subsequently to the commencement of this practice; but the quantity voided did not exceed half an ounce. The chalybeate treatment was ordered to be continued. In the mean time the patient, who was too weak to take any walking exercise, was directed to continue her gentle rides in the Regent's Park. In less than a fortnight she had recovered a moderate relish for food and a capacity for digesting it; and was considered by her friends to have greatly improved in her general health. The same practice was continued for six weeks with the most striking advantage, when she became the subject of a slight menstruous stillicidium, accompanied by the usual symptoms incident to a catamenial period. The function was upon the whole well performed in about six days. On the second day, the quantity of the secretion was considered by the mother rather excessive. Before the accession of this period the cough was nearly gone, and subsequently to it, it never returned. The great remedy which always perfectly agreed with the stomach was continued without any change of quantity for several months. It acted mildly on the bowels, which made it unnecessary to persist in the use of the aperient pills first prescribed, which were used only for about eight or ten days. This case came first under the cognizance of the author in the beginning of May of the present year. Its subject, who is at present in the country, is now in a state of high and blooming health; having menstruated several times in proper quantities, and observed most regularly the periodical returns of the function. The author has, within the last three years, used carbonate of iron in the quantity of between half an ounce and an ounce daily, in cases of retention of the catamenia with chlorosis, with excellent effects. A young woman, æt. 18, the daughter of a tradesman in a populous provincial town, where the author resided in the year 1810, became, as was believed, suddenly the subject of slight aberration of mind. She had menstruated occasionally from the age of sixteen, but always in small quantities, and very irregularly as to times. For about a week before the author first saw her in consultation with the medical friend of her family, her conduct had been unusually extravagant and even riotous. When quite herself, she was represented as very intelligent for her station, and remarkably engaging in her manners. She had not slept the previous night, and very little for many nights antecedently. Her face was flushed and considerably distorted by the expression of passions having a sexual tendency, as also in some degree by spasmodic muscular contractions similar to what we sometimes see in cases of St. Vitus' dance. Her tongue was extremely foul and loaded. The pulse was beating with irrepressible strength, but with a confusion and irregularity which made it impossible to determine its frequency; but with a frequency which probably would itself have made it impossible to count it.

The mother believed that her daughter had had a slight menstrual appearance, for a few hours, at the commencement of her indisposition; but supposed, from the fact that no napkins had been used that the function, as on many former occasions, had failed to have been duly performed. With respect to the treatment from the commencement of the case, the author has to regret, that from not being in possession of any notes of it, he is unable to state the particulars. From what he has always known of the professional talents of his valued friend who had attended from the beginning, he has no doubt but it had been treated with great propriety and skill. Bleedings he can well remember had been had recourse to, and cold fluids had been applied to the head previously shorn of its hair. In the author's judgment, the case was one of mild phrenitis, complicated with high sexual irritation. The actions of some of the muscles greatly resembled those of St. Vitus' dance. The poor patient kept moving her arms about irregularly, and walking to and fro in her chamber, which she could not be induced not to do without personal coercion, until she died. She died the same night. It was a mortifying circumstance that permission was denied to inspect the body after death. The following may be quoted as a case of Chorea St. Viti produced by suppression of the menses. Margaret Jameson, æt. 16, was admitted to the Royal Infirmary at Edinburgh on the 10th of May 1804. She was affected with irregular involuntary motions of the superior extremities, and with a diseased action of the muscles of the face, producing great distortion in the expression of the features, attended with flushing of the face, pain in the occiput, and difficult articulation. These involuntary motions do not continue during sleep, although during the night, and in the absence of sleep, which they have the effect of preventing, they are particularly severe. P. 84. Tongue clean, appetite impaired. Thirst considerable, belly bound. CATAMENIA APPEARED ONLY ONCE, AND IN SMALL QUANTITY, MORE THAN TEN MONTHS AGO. This affection commenced about the middle of January last; previous to which she had been in good health. The left arm and leg were first attacked, and about a fortnight ago the morbid action shifted to the right side. The patient has used a great variety of remedies, with the nature of which she is ignorant. The case was treated by calomel and jalap, and the patient was dismissed cured in about ten days. Communicated by Mr. M'Mullin. *Edinburgh Medical and Surgical Journal*, vol. i. p. 28. In the *French Journal de Médecine* for 1754, vol. i. p. 418, we have an interesting case of chlorosis cured by purgative medicines; and in the same volume, p. 117, a case is given of a putrid inflammatory fever which supervened upon a sudden suppression of the menses. The sketch given of it is only instructive negatively, as a beacon against the consequences of inert practice. It terminated fatally; and it seems probable that this issue was to be imputed to want of active treatment at the beginning. The patient was bled at least three times, but the quantity of blood abstracted is not stated, excepting that from the third bleeding, when it amounted only to eight ounces. Under English treatment of the present day, there

is little doubt but the event would have been the reverse of what it proved. A case of mania is given in the ninth volume, p. 28, of the same work, occasioned by irregularity and suppression of the menses, which was treated by the application of medicated fomentations to the vulva. The reporter of the case states that the catamenia were thus re-established, and that by the same means the malady of the mind was removed. A case of periodical hemoptysis of one-and-twenty years' duration is recorded in the 37th volume, p. 401. The patient died of a malignant fever at the age of forty-five. This case illustrates a point of pathology noticed in the author's general sketch of the morbid results of amenorrhea. On inspecting the body after death, a schirrous tumour of the uterus was discovered in the lower part of the abdomen. It was lobulated, and weighed three pounds and a half. Communicated by M. Beutor de la Creusa. "An unmarried lady, who had always enjoyed good health up to the period of cessation of her menses at fifty years of age, became then the subject of a white and lymphatic discharge from the vagina accompanied by acute pains in the hypogastric region. Baths and emollient remedies were had recourse to; but without any benefit. The pains gradually increased in violence, and the discharge became virulent and serous. It was discovered by examination, that the orifice of the uterus was hard, schirrous, and adhering to the right side. The pains being lancinating, gave rise to a suspicion of a cancerous disease. Hemlock was accordingly exhibited, which at first appeared to give relief. But the disease made rapid progress. Marasmus supervened, and the patient died at the age of fifty-six. On opening the body after death, the abdomen was seen to be much distended. When the integuments were laid open, there escaped a yellowish matter formed out of the remains of the epiploon, which had been destroyed. The intestines were much distended and livid. They were in several places attached to the uterus. Some portions were become gangrened, and communications were opened into the vagina, by which the poor patient had voided her excrements many days before her death. The uterus was greatly distended. It was elevated above the pubis about three fingers' breadth. It opposed some resistance when the dissection was made, by a schirrous and very indurated portion which communicated with, or rather formed part of the walling of its internal cavity. A great quantity of pus presented itself in the course of the examination; but what perhaps merited most attention, was the presence of a body within the cavity of the uterus, which was nearly detached from it, and was only adherent to it at one part, more to the left than to its right side. At an inferior portion of the parietes of the uterus, and at the place of cohesion of the body just mentioned, there were to be observed many cancerous projections: but throughout the whole substance of the diseased organ there was no osseous matter encountered. The nearly detached body within the cavity of the womb appeared to be composed of a species of paste, which might be compared to soft cheese mixed with a great many hairs like those of the head, disposed irregularly in all possible directions. Some of them were unravelled, and found to measure a foot and a

half in length. Exposed to the action of fire they frizzled, and exhaled the same odour as is given out during the burning of common hair. The diameter of the unorganized mass containing it was between an inch and a half and two inches in diameter. Communicated by M. Vicq-d'Azyr. *Mém. de l' Acad. des Sciences*, 1776.

In illustration of amenorrhea from a mixed cause, the first case of Dr. Smellie's fourth collection may be appositely quoted. "In the year 1724, a gentlewoman turning of twenty, who had always enjoyed good health and a regular discharge of the menses, happened, during that evacuation, to fall into a river in very cold weather, and was obliged to ride a full mile before she reached home. By this accident the catamenia were entirely obstructed, and I was called to give advice and assistance. When I had arrived at the place she had been in bed some hours, and she complained of violent pains in her head and back. Her pulse was quick, she breathed with difficulty and seemed a little delirious. It was sometime before I knew that the discharge was upon her when she fell into the water: consequently I was ignorant of the obstruction. She was immediately bled at the arm to the quantity of twelve ounces; but finding no relief from this evacuation, she lost eight ounces more, and fainted away. The pains, however, and difficulty of breathing, soon abated, and a profuse sweat ensued." This treatment was followed up by diaphoretics and mild purgatives. The delirium and other febrile symptoms soon subsided. The discharge on that occasion was not re-established; but the patient recovered her health perfectly, and at the proper time for the next period the menses appeared as usual. A poor woman of thirty years of age had been the subject of suppressed menses upwards of three years. She consulted the author on account of a short dry cough with dyspnœa and distressing palpitations of the heart. Her spirits were greatly depressed, and her digestive organs were in a state of extreme derangement, inasmuch that she was sometimes harassed with vomitings, and at others with all varieties of disturbances of the bowels. There was considerable prostration of strength; and this symptom was occasionally much exasperated by profuse bleedings at the nose. The treatment consisted of an active emetic in the first instance; a course of blue pills with bitters; a succession of blisters to different parts of the chest and sides, and finally chalybeates alternated with mild aperients; the former in half drachm doses twice a day. She gradually recovered her appetite and strength, lost her cough and difficulty of breathing in about four months, and began to menstruate in about seven months from the commencement of the treatment. In about six years subsequently she consulted the author for a jaundice, which had again interrupted the regularity of her catamenial function. This symptom yielded in about six weeks or two months to the usual treatment by mercury, and her menses were permanently re-established. A case of suppression of the menses, which was followed by the growth of a strong, thick, black beard, may be seen recorded in the old French *Journal de Médecine*, tom. lix. p. 123.

The person thus ungraciously transformed was a young lady of the name of Briset, of Fougères. She was of a stature something below the middle size, of a full habit, with black hair and thick set eyebrows of the same colour. She enjoyed good health, and menstruated with great regularity until she arrived at the age of twenty, when she was seized with pains of the back, loins, and limbs; accompanied by feverish actions, great lassitudes and derangements of the organs of digestion. These disorders were eventually got the better of; but the menstrual function was never restored. Moreover, as she recovered her general health, she had the mortification to observe that she became furnished with a strong and thick black beard, and as abundant in quantity as we sometimes observe to ornament the chins of the most bearded of the male sex. Many vaunted nostrums, having the reputation of depillatories, were employed, but without benefit. The beard remained a perennial growth, which furnished a daily crop to the razor. The subject of the case in the mean time enjoyed perfect health. The menstrual function was, however, never re-established. The only additional character, or modification of character, which was sustained contemporaneously with the accessional quantity of beard, was a slight increase of firmness of the voice. *Journal de Médecine*, tom. lix. p. 123. “Maria Beckia, thirteen years of age, struck herself violently against a beam, which greatly stunned her. She, however, recovered at the time, and the only thing that remained was a tumour on the head of about the size of a filbert. She remained in this state till the year 1734, i. e. twelve years after she sustained her accident; when, however, she received another blow, at which time her menses ceased. The tumour on the head increased rapidly, in consequence of this second irritation, and arrived at the height very speedily of seven inches, and the circumference of thirteen inches. A ligature was applied to the peduncular part of the tumour. This was followed by the appearance of four openings in different parts of its surface, each of which furnished a purulent discharge. In fourteen days after the application of the ligature, the tumour was removed, when it weighed four pounds and six ounces. After the lapse of a few weeks subsequently, the patient was seized with pains in the right side of the head, and she died in convulsions in January 1735.” *Acta Eruditorum*, p. 220. Leipsic, 1736.

A woman, of the age of twenty-six, who, at every menstrual period, experienced an œdema of the fore arm, wrist and fingers, attended with considerable pains, which always disappeared upon the accession of the menses. The author did not know the cause. *Saviard's Surgery*, translated by J. S. p. 8, obs. 5.

The wife of a stonemason of a good constitution, and of comely person and figure, had never had her menses; but suffered no inconvenience from their absence, WITH THE EXCEPTION OF STERILITY. She never had the happiness of becoming a mother. Another woman had her menses regularly as long as

she continued single; but after she was married, they became obstructed, and never subsequently returned. She however continued to enjoy excellent health. *Felix Plater apud Spachium de Gynæsiis, &c.* A woman who had had six children, and had also been regular since the age of fifteen or sixteen, experienced in her forty-second year a suppression of her menses without any recognised cause. She complained of great headache, pains in the stomach and breast, with much difficulty of breathing and extreme weakness of the voice. In a short time the voice was entirely lost. Eight pallets of blood were abstracted, and in four hours all the patient's complaints were removed. At the next menstrual period all the former symptoms returned, and were again removed by the same measures. She was then sent into a hospital, where however the disease sustained no mitigation. She was repeatedly bled. She gradually lost strength, together with the natural bloom of her complexion. Her powers of digestion became deranged and much enfeebled. Her respiration became oppressed, and her lower extremities œdematous. She was then made the subject of a feeble and temporising practice; during which however she gradually recovered her voice. On the accession of a spontaneous diarrhœa, which lasted for four days, her other symptoms yielded, and she eventually quite recovered. *Recueil Periodique de la Santé, 1801, tom. ix. p. 278.* A young woman, æt. 19, was seized on the approach of her menstrual period with violent pain in her bowels, and a considerable tremor, accompanied by a general sensation of coldness. The pain was so exquisite that she could hardly speak. But this becoming exasperated into a paroxysm of torture, was followed by a motion to go to stool, which was succeeded by a sort of syncope, and immediately afterwards by vomiting. The latter symptom usually continued for two days, and had the effect of carrying off the pain; but also of leaving the patient in a very weak state. This malady, when made the subject of the present notice of it, had been of five years' duration. Communicated in a letter to Dr. Simmons, by Dr. Daniel of Crewkerne. *London Medical Journal, vol. v. p. 183. 784.* For further illustration of the pathology of retained and suppressed menses, the reader may at his leisure consult the following references. A case of epilepsy, occasioned by suppression. *Journal de Médecine, tom. xxx. p. 440.* Imperfect menstruation and sterility accounted for from a partial obstruction of the orifice of the uterus. "The internal orifice of the uterus was closed by a membrane which bordered interiorly the vagina; and this membrane was adherent to the orifice of the uterus, as well as to the vagina. It was only pierced by two small holes of a quarter of a line in diameter. The neck of the uterus was twice as long as usual." *Hist. de l'Academie Royale des Sciences, 1704, p. 26.* Connexion of amenorrhea and phthisis pulmonalis as cause and effect. Communicated by William Shearman, M.D. *Edin. Med. and Surg. Journal, vol. vi. p. 78.* Non-appearance of the menses at the age of puberty, their continued absence subsequently, and sterility during twelve years and a half of married life, followed by fatal dropsy

Mauriceau, tom. ii. obs. 232. p. 189. Dyspeptic symptoms of considerable severity consequent upon suppression of the menses; communicated in a paper on conception, &c., by Dr. Elisha du Bois. *New York Medical Repository*, vol. ii. p. 25. A case of insanity alternating with convulsions imputed to derangement of the catamenial function. *Journ. Générale de Médecine*, 1811, tom. xlii. p. 267. Suppression of the menses, occasioned by getting the feet wet, and impregnation in about two years afterwards, without previous restitution of the suppressed function. Communicated by Dr. David Hossack. *American Medical and Philosophical Register*, vol. iv. p. 422. Suppression of the menses in consequence of taking a cold bath during the catamenial period, followed by ascites and other formidable symptoms. *Annales Cliniques de la Société de Médecine Pratique de Montpellier*, tom. ii. p. 100, 1818. Suppression of the menses in consequence of a sudden shock sustained from the death of a mother, and especially ascribed to the taking up of the cold and lifeless hand of the deceased. *Ephemerid. Germanic.* dec. iii. an. 1, p. 137. Suppression of the menses in a young woman of thirty-three years of age, followed by prodigious and fatal effusions of blood and serum. "The body being opened, there was found between the muscles of the abdomen and peritoneum eighty pounds of very black blood, and between the peritoneum and intestines forty pounds of limpid water. The left Fallopian tube was greatly distended, and contained a pound and a half of viscid humour, together with a great quantity of a whitish semifluid of thicker consistence. The diaphragm was so compressed by the effused blood and serum, that it almost reached the patient's throat. The lungs were also greatly compressed, and of a deep dark colour." Communicated by Dr. Antonio de Pozzis. *Ephemerid. Germanic.* 1673, obs. 41, p. 37. Suppression of the menses, followed by an intolerable pruritus, and by a most offensive fœtor of the urine. *Ephemerid. Germanic.* 1673, p. 48. A case of dropsy produced by suppression of the menses, and cured by a severe salivation from a course of mercurial treatment. *Ephemerid. Germanic.* dec. ii. an. 4. p. 91. Norimberg. 1685. Suppression of the menses, followed by distressing palpitations of the heart, extreme cachexia, and ultimately by apoplexy and death. *Ephemerid. Germanic.* dec. xi. an. 5, obs. 226, p. 452. Suppressed menses, followed by profuse hæmorrhages from the nose, great chachexia, and large pustular and petechial eruptions, containing pus and grumous blood on different parts of the body. *Ephemerid. Germanic.* dec. ii. an. 7, obs. 81, p. 145. A fatal suppression of the menses, supposed to have been caused by long exposure to the narcotic aroma of hops. *Ephemerid. Germanic.* dec. ii. an. 8, 1689, p. 200. Profound melancholy, consequent upon suppression of the menses, which terminated in child murder and suicide. *Ephemerid. Germanic.* dec. ii. an. 10, obs. 10, p. 30. Suppression of the catamenia, followed by enlargement of the head, loss of memory and idiocy. The case was treated by the application of the actual cautery to the head; by which it is stated that "sense was in some measure restored." *Thom. Bartholin. Act. Medic.* tom. ii.

p. 195. Hafn. 1675. A case of suppressed menstruation, complicated with the presence of an enormous tapeworm. Both complaints were cured by three doses of powder of tin, combined with jalap in the proportion of two drachms of the former to half a drachm of the latter. The worm, thus forced to quit its tenement, measured thirty-eight yards in length. Quoted from the Transactions of the Medical Society of Copenhagen in the Medical and Philosophical Commentaries, vol. v. p. 251. Suppression of the menses, followed by hydrothorax and death. Mauriceau, Appendix to tom. ii. obs. 77, p. 41. Suppressed menses, occasioned by a strain, and complicated with a vesicular and encysted infarction of the peritoneum. Martin's Abridgment of the Transactions of the Royal Society, vol. xi. p. 187. Cases of impetuous translations of blood to the chest and head, consequent upon suppression of the menses, and speedily followed by fatal effects. Th. Bartholin. Act. Medic. tom. ii. p. 194.

The DIAGNOSIS in cases of amenorrhea is seldom attended with much difficulty. The fact itself, of the function being suspended, from whatever cause, must of course be known to the party herself; whereas it seldom happens that either retention or suppression ever takes place without its being attended or speedily followed by other and obvious symptoms of disturbed health. It is naturally suspended, as we have already seen, during pregnancy, and during lactation. Under certain circumstances of the former state, it sometimes happens that the subject of the suspension may have motives for wishing to conceal the actual fact of her case, her physician being in the mean time consulted on the supposed morbid suspension of her catamenial function. Young women have been known under such circumstances to have recourse to extraordinary arts of deception, in order to impose on the credulity of their friends, and the less easily duped sagacity of their medical attendants. In other cases, married women, unblest with a family, but at the same time anxious to become mothers, have occasionally deluded themselves with false hopes and deceptive convictions of their being pregnant, when they have not actually been in that wished-for state, on account of trifling irregularities in the menstrual function, and even sometimes without any such irregularities at all. A third class of females have erroneously imputed to pregnancy the reduced quantity and dodging performance of the catamenial function incident in many cases to middle and advancing life, when women are especially subject to enlargement of the abdomen and of the mammæ from increasing corpulency. All these subjects will hereafter present themselves for consideration, when we shall have to treat of the signs and other phenomena of pregnancy.

OF THE TREATMENT OF AMENORRHEA.—Retention of the menses being usually the result of constitutional disqualification, an adequate view of its treatment would lead us to the consideration of a subject much too comprehensive to be treated of in the present article; viz. THAT OF THE INFLUENCE OF PHYSICAL EDUCATION on the development and competent performance of the cata-

menial function. It is indeed seldom that this subject is submitted to the consideration of the physician in connexion with any object of prophylactic treatment. The patient is usually presented to her medical attendant the actual subject of the retention. The curative treatment will therefore include the whole of his undertaking; distributable, however, in many cases into two principal heads, viz. THOSE OF MEDICINE AND REGIMEN. In the management of every case, our first object should be, if possible, to ascertain the cause. The causes of retention of the menses are either organic or functional. Of the former, some may be considered as original or congenital; and others, the results of accidents or diseases. Under the head of congenital causes are to be noticed the absence or non-development of one or more of the organs essentially appertaining to the sex, as of one or both ovaries, or of the uterus; and of malformations of one or more of the sexual passages. The absence of the uterus, which is itself the menstruating organ, must obviously be incompatible with the performance of the catamenial function. This defect of nature, in common with the insufficient development at the age of puberty of the same organ, is usually accompanied by malformation of the vagina and external genitals. Of cases of this description, a few have already been referred to in a former page, and many others will unavoidably be noticed under their proper head in a future article. It is obvious that retention of the menses from any of these causes can admit of no treatment.

We have already had occasion to notice cases of non-appearance of the menses at the proper age, but nevertheless accompanied at certain periods by the phenomena usually incident to the presence of the catamenial function, as depending upon impediments from imperforate passages. The principal duty of the medical attendant in such cases, is to detect the cause. Some address, perseverance duly combined with temporizing forbearance, and the utmost delicacy, will be required to be practised in order to arrive at the knowledge of the actual fact of cases of this kind. The fact itself duly ascertained, and the remedy by a crucial incision or perforation of the impeding structure by a trocar, will at once present itself as obvious and for the most part easily applicable.

Amenorrhœa from structural disorganization of the genital tissues will receive so many illustrations in future parts of this work, that the author does not think it necessary to go into the particular consideration of it in this place.

When consulted in cases of non-appearance of the menses at the usual age, the practitioner has for the most part to ascertain, first, whether the other ordinary phenomena of puberty shall have manifested themselves; or whether they may be only in progress of being developed; and then, in either case, whether the supposed retention be or be not complicated with any derangement of the general health. If the general health is supposed to be yet undisturbed, the appetite to be good, the sleep sound, the spirits cheerful, and the ordinary functions of the system well performed, it might admit of great

doubt whether, in such a case, any services of our art could be made efficiently available. We should perhaps advise a change of residence, travelling, prescribe the limits and modes of personal exercise, etc., rather than obtrude measures of professional interference when not positively indicated. If on the other hand we suppose a case of actual constitutional retention attended by its usual accompaniments of disturbance of the chylopoietic functions, viz. diminished appetite, fancifulness in the choice of foods, depressed spirits after eating, acidities of the stomach, flatulencies, with noisy movements of the bowels, and also with occasional pains, and a sense of heat and tension in the uterine region, aching pains of the loins, thighs, and small of the back, it becomes the practitioner's duty to pay his earliest attention to it. He will of course have to consider whether the retention be probably a fault of the constitution, or that exclusively of the genital system. Is the subject of the retained menses apparently plethoric or of a slender habit? Has she a full and powerful pulse, or a small and feeble one? Is she fresh and blooming as to her complexion, or pale, sallow and delicate? Are her symptoms those chiefly of a constitutional character, as want of strength, want of appetite, short breathing, palpitations of the heart, lassitude, etc., or those of sexual plethora, such as a sense of fulness, weight, heat, tension, etc., of the organs within or in the neighbourhood of the pelvis? In cases of constitutional debility, combined with paucity of blood in the system, it is manifest that no emmenagogue medicines could be exhibited with any prospect of success; inasmuch as it would be worse than useless to stimulate the menstruating organs with medicines of that class as long as they might be supposed destitute of the means or material of their proper secretion. In the treatment of such cases, therefore, our first indication should be to put the subject in a situation to possess as soon as possible the means or material in question. In most cases of great feebleness of constitution, with paucity of blood, we may readily observe that the function of digestion is in a very feeble, perverted, or morbid state. The want of activity and efficient performance of that function, will be found to have attended such cases for many months, and possibly for years, before they are formally submitted to the consideration of the physician. His first combinations, therefore, will have for their object the establishment of the general health, which would include a system of gastric treatment, too extensive and diversified to admit of its being at present adequately exemplified. In cases of chronic inaction of the organs of digestion, it may be laid down as a rule of practice seldom to be departed from, that before we proceed to exhibit any specific remedies, we should obtain healthy absorbent surfaces by a thorough cleansing of what are usually called the first passages. Hence the propriety of premising an active emetic. That would be to be followed up by the exhibition of an efficient purgative, consisting of calomel, colocynth, jalap, scammony, etc. Two or three doses of these purgatives will not more than suffice to effect the complete emptying

of the torpid bowels of chlorotics ; and these evacuations, consisting as here described of repeated doses, should be iterated at least once during every month. See the admirable cases on this subject by Dr. Hamilton in his work on Purgative Medicines. Having thus obtained gastric surfaces calculated to be benefited by the administration of other remedies, the practitioner will then proceed without loss of time to exhibit alterative and mildly tonic medicines, such as blue pill in occasional doses, the extract of colocynth with or without aloes, if necessary to keep up a freely soluble state of the bowels, the extract of taraxacum, infusion of gentian, etc. After these measures shall have been adopted for some weeks, the patient will be seen to improve in her health, strength and appetite. The practitioner will then find his advantage in adding to the medicines just stated large and frequent doses of carbonate of iron. The circumstances of the individual patient will of course suggest some modifications as to the application of the remedies recommended, as well as possibly many important additions, which we shall now proceed to consider at greater length under the next head of our subject, viz. the treatment of suppressio mensium.

In the treatment of suppressed menses, we have first to entertain the distinction, of the case being a recent or a chronic one. In the event of our being consulted immediately upon the suppression taking place, and in the midst of the constitutional turbulence almost always consequent upon its sudden occurrence, we shall in most cases be able, by proper measures, to effect its restoration in the course of a few hours. To accomplish this object, however, we must have recourse to such means as will enable us speedily to restore the lost balance of the circulation. Perhaps the exhibition of an active emetic, consisting of a grain and a half of tartarised antimony and a scruple of ipecacuanha, may suffice to attain this object. If, however, in the course of two or three hours it shall appear not to have been attained, then the patient should be bled *ad deliquium*. That evacuation will seldom fail to restore all the functions of the subject to their proper and healthy state. In a great majority of cases the catamenial evacuation would be speedily restored by it ; and in those in which it might not be immediately restored, it would scarcely ever fail to take place at the proper period for its next subsequent appearance. But it unfortunately happens that the medical attendant is seldom consulted until after the lapse of many days, or even of weeks, after the actual suspension of the function. The affair will then of course have become a matter of history ; and the facts of that history it is manifest will be an object of great importance to collect accurately and judiciously. The prognosis in this case would greatly depend on the duration of the interval intermediate between the suspension of the function and the opportunity given to the medical attendant to deal with its consequences. If we suppose the practitioner to be consulted within the two or three first weeks from the interruption of the function, and he should then find the patient's circulation considerably excited and attended with disturbances

of other functions, it will in most cases be advisable that he should abstract a moderate quantity of blood, and preferably, if it can be done conveniently, from the loins BY CUPPING. In a few days subsequently, and as soon as the part shall have healed, he might find it useful to apply over the same lumbar surfaces and the small of the back inclusive an ample blister. The time for the reappearance of the function being now supposed to be about to approach, it will generally be found advantageous to exhibit a smart purge consisting of calomel, colocynth, and aloes. In the event of the secretion making its appearance at the proper time, the case may be considered as having terminated prosperously, and will subsequently only require ordinary management on the part of the practitioner and his patient. If, on the contrary, the secretion shall not be visibly restored, it will be a circumstance of considerable value that the phenomena usually attendant on the catamenial function shall present themselves at that time, viz:—pain, with sense of heat and distension in the uterine region, pains in the flanks, loins, thighs, and the usual constitutional symptoms of feverishness, headache, nausea, pains and sense of fulness of the mammæ, disrelish for food, lassitude, etc. On the departure of these symptoms the practitioner should make his best arrangements for the re-establishment or improvement of the general health, paying the most sedulous attention to the state of the digestive organs. During the next interval he should exhibit either two or three smart purges, and intermediately small doses of blue pill, with the class of medicines called mild bitters and tonics. During this same interval also, the author would think it exceedingly proper to commence the exhibition of carbonate of iron in drachm doses taken three times a day. By this treatment he would, in a large majority of cases, feel himself warranted in expecting that the next period would respond to the best hopes both of himself and his patient. In cases of the ordinary symptoms of the catamenial function repeatedly occurring unaccompanied by its ordinary secretion, it has been proposed by many eminent practitioners to abstract from the uterine system or its neighbourhood moderate quantities of blood, either at the proper time for the appearance of the discharge, or immediately subsequently. This indication has often been admirably well answered by the application of leeches to the pudendum. The number of leeches proper for these services would appear to be from a dozen to a score during the supposed period. *Nouveau Journal de Médecine*, &c., tom. iv. p. 160. From what has been advanced in a former page of the present work, of the extensive inter-inosculation among the branches of the uterine and vaginal arteries, it will be readily understood that any considerable abstraction of blood from the latter will not fail to relieve the plethoric condition of the former. With the same indication the leeches may be introduced through a tube into the interior of the vagina, and even as far as the orifice of the uterus itself. In that case it should be observed, as a matter of precaution, not to use more than four leeches at a time. It need not

be added that the official part of such a duty should be performed by a modest and intelligent female. The author has for many years been in the habit of employing for these services one of the most experienced and best educated midwives of the Maternity Charity. He does not recommend this very efficient mode of applying leeches as absolutely novel in its adoption, excepting perhaps in this country; as there is a case recorded by Lanzoni of its having been adopted by him with perfect success as long ago as the latter part of the seventeenth century. Lanzoni, indeed, speaks of it as a practice familiarly known even before his time. "At length he proposed leeches, which the parents having agreed to, he applied two to the internal part of the uterus," meaning the interior of the vagina, "in the manner, and by the means, advised by Hieron Nigrosolus, in his *Progymnasmata*. In a few days she became quite well. She soon after married, had children, and was never afterwards troubled either with headache or with suppressed menses." *Ephemerid. Germ. dec. ii. an. 10. 1691*. The utility of this practice may be represented as twofold, viz:—first, as being calculated to relieve the over-distended vessels of the uterus and its dependencies, so as to prevent the establishment of subsequent obstructions and infarctions of the genital tissues; and, secondly, to sustain the habit of periodicity of a sanguineous determination to the menstruating organs.

That determination regularly taking place, we do not seem to know why in many cases the actual discharge does not present itself; there being, in a thousand instances, abundant proofs of the presence of the determination in question without its being accompanied by the ordinary external manifestation of it. Many authors, especially foreign writers, have ascribed the failure to spasm, or morbid contractility of the discerning vessels of the uterus. But the various modifications of this theory are only so many varied expressions of our ignorance of the actually morbid state of the menstruating organ when so implicated. May we not suppose that the determination allowed to exist may often really exist in a degree sufficient to account for the phenomena of tension and congestive fulness felt in the uterine and lumbar regions during the proper period of the function, and yet not be sufficient to enable the menstruating organ to furnish the material of the secretion? This notion, which has been espoused by many writers, is not devoid of plausibility, but it may not be so exclusively admissible as to warrant the entire rejection of the hypothesis which ascribes the failure to rigidity of the extreme vessels of the uterus. The notion of this rigidity has led many continental practitioners to the recommendation of warm baths, and to varieties of what we might call steaming processes applied to the vagina and the orifice of the uterus; and there can be no doubt that these measures have often been attended with excellent effects.

Proceed we next to consider the subject of suppression of the menses in its chronic form; and the reader will be pleased to consider what shall be advanced on this part of our inquiry as also generally applicable to ORDINARY CASES OF RETENTION OF THE CATAMENIAL FUNCTION. When the suppression

shall have existed for a long time, there is always reason to apprehend that, if not already the result, it may eventually become the cause of derangement of structure. Hence, upon inspection after death of persons whose uterine organs had been obstructed during such portions of life as are usually respondent to the menstrual function, pathologists have seldom failed to witness diseases of structure of the organs in question quite sufficient, and more than sufficient, to account for all that had been previously observed in the history of the functional malady. Examples, however, have been numerous recorded of women having been the subjects for many years both of retention and suppression of the menses, whose cases, nevertheless, eventually yielded to many forms of active and skilfully-applied remedies. The structural diseases of the uterine and ovarian tissues are often in their incipient stages beyond the reach and cognizance of the best-devised researches of the pathologist. Our obvious duty therefore, in all such cases, should be to avail ourselves of the best known resources of our art, and to make use vigorously of those remedies and remedial measures of which experience has frequently and unequivocally established the value. It has more than once been hinted at, that an early consequence of suppression of the menses is derangement of the function of digestion. After removing the inordinate febrile disturbance which usually more immediately supervenes upon a sudden suppression, it will accordingly be the practitioner's next duty to pay his earliest and best attention to the state of the digestive organs. But it sometimes happens that such attentions fail of their object; or, as may occasionally be observed in other cases, suspended menstruation may coexist with a moderately healthy condition of the organs in question. In such cases the practitioner will be disposed, or feel himself compelled, to have recourse, either singly or in combination with some of the milder tonics already noticed, to one or more of those articles of the materia medica which have been considered as being especially adapted to stimulate the uterine system. This class of agents are called emmenagogues, and include several simples, chiefly derived from the animated kingdoms of nature; such as madder, rue, savin, arnica, myrrh, ergot of rye, cantharides, etc.

Of all those supposed stimulants of the uterine system, MADDER, technically called *RUBIA TINCTORUM SATIVA*, may be considered as occupying the first rank. The virtues of madder were known in very remote times, and it has been extensively employed for emmenagogue purposes in most of the countries of Europe in modern times. Dr. Home, Medical Commentaries, vol. vii. p. 217, observes in reference to this powerful emmenagogue, that out of nineteen cases of amenorrhea which were treated by it, fourteen were happily cured. The preparation employed was that of the powdered root, and "it was given to the quantity of half a drachm twice or oftener in the day." It has scarcely, he further observes, any evident effects. It never quickens the pulse, nor lies heavy on the stomach; and in general it restores the discharge before the twelfth day from the commencement of its use. A valuable case in illustration of the

powerful effect of this medicine may be found recorded in Simmons' London Medical Journal, vol. ii. p. 230. The author has indeed himself on several different occasions seen excellent effects from the use of the root of madder in cases of amenorrhea.

Of the effects of RUE as a remedy for amenorrhea, the testimony is far from being precise and satisfactory. Many cases of its good effects are indeed recorded in the older works; but the histories are so extravagant, and the administration of the remedy so frequently complicated by its admixture with other medicinal agents of known power, that the published results of its employment are scarcely such as to deserve any reliance. On the whole, it seems probable that rue is little more than a warm and nauseous antispasmodic of no considerable efficacy.

The deobstruent effects of SAVIN would appear to be entitled to more attention. It has often been given as an emmenagogue, especially in cases of uterine obstructions supposed to depend upon a want of tone or irritability of the vessels, and in relaxed and weak habits; but its employment is considered as contra-indicated in plethoric subjects. Savin is an evergreen shrub, with short narrow prickly leaves, like those of juniper, of which indeed it is a species. Lin. Sp. Pl. 1472. The part used is the powdered leaf. When employed for improper purposes, this agent has been generally taken in very excessive doses in the form of decoction made with the fresh leaves and tops. The best fact in illustration of the emmenagogue power of savin known to the author, was communicated to him some years ago by a pupil who had served his apprenticeship to Mr. M. of Tunbridge. In the immediate neighbourhood of that town, there then grew, and is probably still growing, an uncommonly fine specimen of the shrub now describing, of which the emmenagogue virtues were not unknown to some of the female inhabitants of the place. It was probably used by them, not unfrequently, as a simple emmenagogue in cases of accidental suppression of the catamenia; but the fact which the author wishes more particularly to advert to as the subject of the statement made to him is, that during the years of his pupil's apprenticeship, Mr. M.'s professional services had been many times required in cases of abortions attended by alarming circumstances, which were acknowledged to have been induced in consequence of taking large draughts of a strong decoction made with the leaves of the notorious savin tree.

Of the emmenagogue powers of the ARNICA MONTANA, the testimonies are not numerous. This species of arnica or German leopard's bane was first recommended as peculiarly efficacious in bruises. From this notion was inferred its probable utility as a resolvent and deobstruent in cases of glandular obstructions. Experience it was asserted more than confirmed these views; especially when prescribed in pulmonary complaints, retention of the menses, hepatic obstructions, chronic rheumatism, some forms of dropsy, malignant dysentery, putrid diseases, intermittent fevers, amaurosis and other varieties of paralysis. The best account of the general uses of the arnica was given by Dr. Colin of

Vienna, in 1777. The part used are the flowers; and the formula recommended by that practitioner was that of an ounce and a half of the flowers, to be boiled for about three quarters of an hour in a quantity of water, which upon being strained should leave a pint of decoction; the whole to be taken in divided doses in the course of four-and-twenty hours. *Medic. Comment.* vol. v. p. 233. Among the more remarkable cases which we find recorded in exemplification of the emmenagogue virtues of these flowers, is one published by Dr. Ch. J. Theoph. de Meza, Professor of Medicine and Obstetrics at Copenhagen. That gentleman has recorded an almost romantic case of a young lady who suddenly became the subject of general palsy, complicated for years, with retention of the menses, which yielded in all its complications, as it were by a charm, to the use of the arnica. The paralytic seizure was the consequence of a trifling nocturnal adventure, which nevertheless occasioned her an extraordinary degree of terror. At the date of this misfortune, the fair subject of the case was fifteen years of age, and had never menstruated. She was immediately placed under the care of a learned and experienced physician who resided in her neighbourhood. That gentleman had recourse to all the remedies usually considered as most efficacious in such cases; but his services were not attended by any results. After the lapse of three years, the unhappy patient was seized with an intermittent fever, which it was hoped might operate as a remedy of the paralytic affection. That result, however, did not take place. The cinchona bark was then advised to remove if possible the new disease; which object however it no further accomplished than that it changed the type of the fever from a tertian into a quotidian ague. Up to this period the patient had not menstruated. Dr. de Meza was first consulted on the failure of the bark to subdue the ague part of the case. That physician prescribed a decoction of the flowers of arnica, in the proportion of an ounce of the flowers to two pounds of water, to be reduced after straining to a pound of decoction, of which a small glassful was directed to be taken every three hours. In a quarter of an hour after the exhibition of the first dose, the patient was seized with a violent sense of oppression and anxiety about the precordia, with pains in the abdomen, and headache. The pulse became accelerated, and there supervened a distressing nausea of the stomach. The remedy was persisted in; but with some diminution of quantity for the second dose. That was followed by cardialgia, and by great increase of heat of the whole body. On the exhibition of the third dose, the symptoms became more tolerable; and in about half an hour after the fourth dose was administered, the patient became conscious of an effluxion of fluid from the vagina. From that moment, she also became conscious of a certain titillation and pricking pains about the tibia, and felt that she had legs and feet. On the following day she could extend her limbs, and on the third day she was able to walk and even to leap, as well as any young person of her age however amply blest with health and strength. The decoction of the arnica was persisted in. There was no return

of the intermittent fever. On witnessing these most satisfactory results, Dr. de Meza thought it unnecessary to see his patient again. At a distant period, however, he subsequently availed himself of an opportunity of informing himself of the fact, that the catamenial function continued to be performed with perfect regularity. *Med. and Phil. Comment.* vol. xi. p. 380. The arnica has not sustained in this country the high character bestowed upon it by Dr. Colin and other German writers.

MYRRH is a very old and favourite medicine in cases of amenorrhea. It is supposed to possess attenuant and deobstruent virtues; but whether and in what degree it may promote the catamenial secretion, there is not sufficient evidence to prove; our principal inference in its favour being deduced from the fact of its frequent employment as an emmenagogue. Myrrh, it is well known, is an important ingredient in Griffiths' tonic and antichlorotic mixture, now the *mistura ferri composita* of the London Pharmacopeia. The compound tincture of savin, *Pharm. Lond.* 1788, once designated *elixir uterinum*, and greatly celebrated as an emmenagogue, was considered to derive no small part of its efficacy from the tincture of myrrh, which entered into its composition. Myrrh has generally entered as an ingredient into popular female pills, and is still retained in two of the formulæ for such pills of the present Pharmacopeia of London. In confirmation of its pretensions as an emmenagogue, it may be incidentally observed that it has often been reprobated by French physicians as having a tendency to produce irritation of the bladder and bloody urine. The compound powder of myrrh consisting of equal parts of rue, savin, myrrh, and Russia castor, *Lond. Pharm.* 1788, given in the dose of from five-and-twenty to thirty grains two or three times a day, is still esteemed an efficacious medicine in uterine obstructions and hysteria.

Of the pretensions of ERGOTED RYE as a useful stimulant of the uterus in cases of amenorrhea, the author is not able to advance any opinion founded on his own experience; nor is he acquainted with any recorded examples of its utility in the practice of others sufficiently detailed and circumstantial to induce him at present to form a positive opinion on the subject. On the whole, he thinks that the stimulant effects of the ergot on the unimpregnated uterus, have not been so satisfactorily proved by facts as has been its influence on the same organ in its pregnant and still more remarkably in its parturient and puerperal conditions.

Among the agents calculated to produce important changes of action in the generative organs of females, CANTHARIDES must be considered as entitled to no inconsiderable distinction. Dr. Greenfield published a treatise on the safe internal use of cantharides in the beginning of the last century; but the efficacy of this remedy as an emmenagogue was never adequately proved before the earlier part of the present century, when Dr. John Robertson of Edinburgh made it the subject of several communications to the journalists of that period, and at least of two separate treatises, of which one was published at Edinburgh

in 1806 and the other in London in 1811. Of its great utility in cases of dysmenorrhea and leucorrhea, some striking evidence will be furnished when we come to treat of those subjects.

Another remarkable agent possessing the power of exciting the generative organs of the female is ELECTRICITY. The principal diseases for which electricity has been prescribed have been those of the nervous system. Cases of atony, or of defective action of other systems, as well as of isolated organs of the body, have occasionally been submitted to its influence. Hence examples are not wanting, though not numerous, of its successful application in amenorrhea. Our experience of its utility in cases of this kind, is more limited than it otherwise might perhaps have been, on account of the inconvenience of its administration, the ordinary mode consisting in passing slight shocks through the pelvis. The electric bath has been strongly recommended in cases of obstructed menses by some French writers. It may be noticed as a subject of regret, that the practice of medical electricity in this country has almost exclusively been given up to incompetent charlatans. There are innumerable experiments with this extraordinary agent which go to prove that full charges of it are incompatible with feeble life: hence the duty of abstaining from the use of it in cases of amenorrhea when suspected to depend upon pregnancy. The author was once consulted in a case of this kind, of which the subject was a young lady of about eight-and-twenty years of age, and so circumstanced in her family and social relations, as to escape all suspicion of the real cause of her obstructed menstruation. After several formulæ of aperient and chalybeate medicines were prescribed without attaining the wished-for result, the supposed efficacy of electricity in cases of amenorrhea, unaccompanied by any obvious loss of strength or of colour, was casually mentioned in the presence of the patient, without however any intention at that time of putting its power to the test of trial. The remark was especially addressed to an intimate friend; the patient herself not appearing to pay any particular attention to it. The first opportunity was however made available by her to turn it to a practical account. An electrician of specious pretensions was forthwith consulted on her case; and an ovum of about four months' gestation was dislodged within the same week in consequence of electric shocks of no formidable power, as it was stated, which were passed through the pelvis. It has been said that in cases where electricity has failed to re-establish the suspended catamenial function, it has had the effect of inducing leucorrhea. It should however be observed, that independently of any agency of this kind, leucorrhea is very apt to supervene on suspended menstruation. *Mém. de la Société Royale de Médecine*, pour an. 1777-8, p. 405, et pour 1780-1, p. 264 et 413. The following case may deserve to be quoted as an example of the efficacy of electricity applied by the passing of some smart shocks through the ancles; a method certainly much more convenient than that which has usually prevailed, of passing slighter shocks through the pelvis. "Miss —, aged twenty-four, of a delicate constitution, was subject

to violent headaches from the time she was eight years of age, which her mother attributed to a fall she got on the head. Her menses began to flow when she was about sixteen; and for some time she continued pretty regular. In June 1760, during the time of her menses, she was exposed to a great rain, and was much wet. The menses suddenly stopped; and from this time she was in a very bad state of health. Her symptoms were, constant headaches, lassitude, pain in her back, dejection of spirits, and such a disorder in her stomach, that she vomited every thing she ate; her pulse low, and so slow that it beat only betwixt forty and fifty strokes in the minute. To remove these complaints, which seemed to proceed from an obstruction of the menses, I ordered her vomits of different kinds, elix. sacr. bark, steel, bitters, in short all kinds of deobstruent medicines, and all to no purpose. Ligatures too were put round her thighs, as described by Dr. A. Hamilton, and she went to the country and rode out every day, but all in vain; no return of the menses took place. She said that drinking germander tea carried off the disorder in her stomach, and her appetite was improved. Upwards of a year ago, finding I could do her no service, I suspended my visits. About the middle of last February, I happened to meet with her mother, and asked after her daughter's health. She told me that she was much in the old way, full of complaints, and not altered since June 1760, almost four years. I advised her to take her daughter to the Royal Infirmary, and try what electrifying her would do. She went accordingly, about five in the afternoon, on the 17th of February, and received nine smart strokes of electricity on the ancles, and about eight in the evening the menses plainly appeared, and continued flowing for three days in as great a quantity as ever. I desired her not to be electrified again till the next period was past; and that, if nothing happened, she was then to be electrified; but, in twenty-seven days, she had her menstrua again, and in the usual quantity. Her health and spirits have been better ever since, and she is growing fat. I inquired at the Infirmary, if any young women came to be electrified for that complaint; I was told that several did, and that in some the effect was so sudden, that they altered before they left the house." Subjoined to the above case, are some important practical remarks, by Dr. David Clerk, upon electricity used as recommended by Dr. A. Hamilton. "I have often used electricity in the Infirmary with the same view, and generally succeeded, even when other good remedies failed. However, I do not know how far it might have answered in these cases, if the other methods of cure had not been premised by way of preparation. In some cases of obstructed menses, I have known the electricity fail me, even when I thought the patient properly prepared for it; BUT THAT WAS SELDOM. In general it seemed to answer best, when there was a languid circulation and a slow pulse. In short, the obstruction of the menses is the disease, of any that I have found electricity to answer best in, except the ophthalmia. For, in the ophthalmia, after one bleeding, and perhaps a dose of physic, I have often seen it cure, or at least be of great service. In bad cases

I commonly make that bleeding from the temporal arteries either by leeches or by the lancet." *Edinb. Physic. and Literary Essays*, vol. iii. p. 116.

Of the utility of PRESSURE APPLIED TO THE EXTERNAL ILIAC ARTERIES as a remedy for amenorrhea, the general experience of the profession does not enable us to speak in very strong terms. The measure was first proposed about the middle of the last century, by Dr. Hunter, a physician then resident at Beverley, in Yorkshire. He communicated his idea to Dr. Archibald Hamilton, of Edinburgh. That gentleman availed himself of an early opportunity of putting the proposed power to the test of a trial. As the original case proved successful, the reader will probably feel some interest in its perusal. "About six months ago," reports Dr. Hamilton, "I was sent for to visit a girl, between nineteen and twenty years of age, who had been obstructed for nearly seven months, occasioned by suddenly exposing herself to cold, during the time she was menstruating. From the first appearance of her catamenia, to the time of their stoppage, she had enjoyed a very good state of health. She had consulted no regular practitioner; but had taken a few things, without any relief, that some of her female acquaintance had desired her. Her complexion was a little pale and wan. Her appetite and digestion bad, with eructations, and sometimes swelling of her stomach. She had now and then sickish and squeamish fits, with an inclination to vomit. Her pulse was slow and languid, with great lassitude and inactivity of body; not having a desire to take her usual exercise. On inquiry, I found she never had any pulmonic disorder; nor had she then any complaint or uneasiness of her breast. She had also no pain nor swelling about the pudenda. It now wanted about twelve days of the usual time of the approach of her menses. I desired her to receive the steam of warm water, every night at bed-time, upon the pudenda, in order to relax these parts; so that the blood might more easily flow that way. I ordered her also, ten days after, an aloetic purgative, to cleanse the first passages, that the blood might find less resistance in its course when determined to the uterus. Next day, after she had taken the purge, I went and saw her, and found it had operated four times. About seven o'clock that evening, I applied a compress and bandage to the crural arteries, at the same place where they put the tourniquet in amputations of the thigh, but not so tight as to endanger a mortification of the inferior extremities. At the same time I desired her to sit above the steam of warm water. I intended to have stayed with her to observe the gradual effects of the bandage, but unluckily was sent in a hurry to see another patient. I left strict orders with a woman who was with her to untie the bandage in case she complained of any difficulty of breathing. On my return, about twenty minutes after, I found her in the same situation I left her in. Her pulse, indeed, beat about six strokes in the minute faster than before the application of the bandage. At the expiration of half an hour, she began to feel a sense of weight and fulness in the uterine region, and turned sickish. As her head and breast continued pretty easy, I begged of her to allow the bandage to continue somewhat longer,

and gave her a spoonful of a cordial-julep. An hour and a half after the first application of the bandage, we found a visible appearance of the return of her menses, by applying a piece of soft clean linen to the parts, which, when removed, was stained in several places. I slackened the bandage, as her legs were somewhat benumbed, but was unwilling to remove it altogether till the discharge should continue to flow for some time. I put her to bed, and on my return next morning found her still menstruating and easy. I now removed the rollers. The menses continued to flow for three days, and returned regularly the next period. Since that time I understand she has been very healthy." *Edin. Essays and Observ. Phys. and Literary*, vol. ii. p. 403. This practice has not been often repeated, nor has it in those cases in which it has been adopted proved so frequently successful as might have been anticipated from the above result of its first trial. Theory might furnish many objections to its employment; but it would seem quite unnecessary to go into the consideration of such objections; inasmuch as it probably may never be even tried upon an adequate scale by reason of the obvious inconvenience of its application. *Dr. Home, in his Clinical Experiments and Dissections*, observes, that a compression of the external iliac arteries succeeded only in one case out of six. *Duncan's Medical Comment*. vol. vii. p. 217.

One great emmenagogue, perhaps the greatest actually existing, viz. MERCURY, remains yet to be noticed. The character of this great agent as a deobstruent stands unrivalled in the annals of the *materia medica*; and it has often under judicious administration restored obstructed females to the due performance of the catamenial function, and at the same time to the possession of their pristine health and strength, after a long list of other remedies had been tried in vain. This excellent medicine, however, has been so often abused, its administration indeed requiring so much judgment and discrimination, that there exists a pretty general prejudice both in and out of the profession against its use in cases of amenorrhea. In cases of recent obstruction—for example, excepting as a purgative in combination with other medicines of that class, there can be no necessity, nor even any propriety in the exhibition of any form of mercury. This powerful agent is only proper in chronic cases, where the balance of the different actions of the body is become much disturbed, and where it may be a matter of considerable probability that organic disease may already be about to commence its dangerous operations. For cases of this kind, the administration of mercury AS AN ALTERATIVE is, in the opinion of the author, most unequivocally indicated. But it may be necessary to observe, that the term alterative is here used somewhat differently from what it frequently is by members of our profession; its more ordinary acceptation having for its object to express so limited an exhibition of the remedy as shall not produce perceptible and inconvenient effects. Excepting simply as a cholagogue in cases of torpor of the liver, the author does not think much of this very restricted mode of exhibiting mercury. In cases of much disturbance of the general balance of the

functions, he feels perfectly assured that such a method of exhibiting it can seldom be expected to be productive of much substantial advantage. Without the excitement of some fever as a consequence of the use of the remedy, it would be quite idle to hope for so much change of action of parts and systems as would be necessary to counteract the diseased actions already existing or about to be established in the viscus or viscera principally interested in the patient's malady. To meet the demands of cases of positive visceral infarctions, this important remedy must be exhibited in sufficient quantity to produce ptyalism; otherwise the absorbents will not be excited to that vigorous and salutary action which we may well presume to be quite essential to the removal of the morbid conditions in question, or even to the suspension of the diseased process or processes by which they might be expected to be continued and extended. This active treatment, it is obvious, might not suit cases of extreme asthenia, nor could it be presumed competent to rescue their subjects from all the consequences of a feeble and temporising practice; from those of extensive ulcerations, and of other destructive ravages of incurable diseases of tissue. The treatment here recommended, is answerable for its probably beneficial results only when it is DISCREETLY AND SKILFULLY MANAGED. An amount of ptyalism only sufficient to be accompanied by a moderate excitement of the heart and arteries is required to be produced; and it is probably a matter of no great consequence whether that effect shall be produced by any one mode of administration of the remedy. Its introduction into the system by inunction of the femoral and crural surfaces might, by reason of the intimate connexion between the absorbents of the lower extremities and those of the pelvic and hypogastric viscera, be deemed an especially eligible mode of administering it in cases of obstructed menstruation. The author, however, has not been able to establish any superiority in favour of that mode of exhibiting it. Two or three doses of calomel and opium, in the proportion of three or four grains of the one to two of the other, will generally suffice to produce an incipient effect upon the mouth. It will then be the interest of both patient and practitioner to proceed with caution. A distressing state of ulceration of the gums, tongue, and palate, should, for obvious reasons, be avoided; whilst at the same time a perceptible degree of soreness of the mouth, accompanied by some freedom of action of the salivary glands, should be produced and kept up for many successive weeks. The average period of a mild constitutional affection, including throughout the whole of it a moderate affection of the mouth, should extend at least over fourteen or fifteen weeks. At the end of that time, the patient will have acquired in most cases a considerably improved complexion. On the retirement of the local affection, when the tongue begins to clean, and to present indications of an improved condition of the stomach, the patient not unfrequently finds herself disposed to relish food, and eventually becomes possessed of so good an appetite and power of digestion, as quite to surprise both herself and her friends. The general balance of the functions is at length adjusted. Some indications of the requisite fulness

of the sanguiferous system, and especially of that portion of it which is expended on the uterus and its appendages, are sooner or later manifested, and ultimately in cases curable by this powerful agent, the catamenial function is happily instituted or re-established. A few cases will amply illustrate the correctness of these observations. A young lady, aged seventeen, of a rather delicate constitution, had been subject from her earliest infancy to involuntary or rather unconscious micturition during sleep. This distressing weakness continued, contrary to what usually happens, subsequently to the usual developments incident to the age of puberty. The subject of the case had menstruated regularly and in proper quantities from the establishment of the catamenial function until she completed her fifteenth year, including a period of about fourteen or fifteen months. About that period, and at a time when she was actually menstruating, she was made the subject, by a thoughtless female domestic, of a disgusting attempt to surprise and terrify her out of the trick, as it was called, but more properly the infirmity already alluded to, the liability to which she herself doubtless regretted more than any other person. In consequence of the extreme terror actually excited by the inconsiderate operations of the maid-servant, the poor young lady sustained immediate suppression of the menses: a result which, moreover, was attended by much serious disturbance of her general health. The circumstances of the case were of so peculiar a nature, that even the simple fact of the suppression was kept a secret from her mother for several weeks subsequently to its occurrence. The symptoms which immediately followed the sudden suspension of the catamenia were those of acute pain in the hypogastrium, a sense of great heat of the organs within the pelvis, and great difficulty in voiding the contents of the bladder, which came away in a few drops at a time, accompanied by intense pain. On the subsequent day the integuments surrounding the vulva became the seat of an inflammation, which afterwards was presumed to have been erysipelatous. These local affections were attended by much constitutional disturbance and fever; which, however, gradually subsided without any interference of art. When the author was first consulted in this case, the catamenial function had been obstinately suspended for about two years. The general health was then greatly broken. The complexion was pale; but much of the countenance was marked by an unseemly eruption of a dark red colour. The mons veneris and adjoining surfaces were also represented as being covered by a thick coating of a dry scaly eruption, which gave great uneasiness by its fiery heat and constant pruritus. Instead of the former want of the power of retention, the patient had now principally to complain of more or less difficulty and pain in voiding the contents of the bladder. The pain was principally that of scalding, from the state of phlogosis of the surfaces immediately bordering on the external orifice of the urethra. The patient, with the loss of her health and good looks, had also lost all relish for society. Her spirits were greatly depressed; but her person could scarcely be said to be emaciated. She complained of a fixed pain

in the left lumbar region; but she could lie and sleep equally on either side. She was also the subject of a violent palpitation of the heart; but it was not constant. The pulse was feeble and frequent, but without any other peculiarity. The patient had taken great quantities and varieties of medicines, the use of which had, however, been attended by no substantial benefit to her case. Many of them had purged her freely; but the greater number had produced no sensible effects, as far as she was aware of, upon any of her secretions. The patient herself had expressed a strong repugnance to her medical attendant in the country being asked for a written account of what he had known of her case. The young lady's mother took lodgings for herself and daughter, in the neighbourhood of the author's residence, and expressed her willingness to remain in London any number of weeks, or even of months, which the treatment of the case might require. The treatment was, therefore, undertaken without loss of time. An emetic was exhibited, in the first instance, consisting of a grain of tartarized antimony and fifteen grains of ipecacuanha. On the subsequent day a smart purgative was exhibited, consisting of five grains of calomel and five-and-twenty of powdered jalap. In the subsequent treatment the local peculiarities of the case determined the choice of Plummer's pills to every other form of a mercurial preparation. Of these, one five-grain pill was exhibited, night and morning, until the mouth was perceptibly affected. A mild salivation was thus promoted in about a fortnight; and afterwards kept up by an occasional exhibition of the same pill for four months. The mouth was never greatly ulcerated; but throughout the greater part of the period the gums were in a state of considerable tenderness. The patient, in the meantime, took several varieties of bitters, such as infusion of cinchona, infusion of calumba, decoction of the woods, etc., which were however not relied upon for the production of any extraordinary effects. It should be stated that blue ointment was, during one period of the treatment, applied by friction to the left lumbar region, the seat of the only abdominal pain of which complaint had been made, with an apparently excellent effect. During the progress of the above treatment, the eruption on the face greatly diminished, and before the patient left London it had totally disappeared. A similarly gradual evanescence of the still more distressing eruption of the surfaces which surrounded the external genitals was stated to have taken place. The sallow half-jaundiced hue of the face and neck was succeeded by a clear and wholesome-looking complexion. The countenance became more animated, and the spirits more uniformly placid and cheerful. When the mouth was got quite well, she was advised to request the services of a dentist to rectify any trifling injuries which it might have sustained from the remedial process lately submitted to. When these services had been duly applied, the mother seemed to be of opinion that her daughter looked as well as she had done for many years. Before she left London, she also acquired a very good share of appetite. After a residence, however, of five months in the metropolis she experienced no sexual change, nor even any perceptible intimation of a

return of her menses. From London she went to Tunbridge Wells, where she remained about ten weeks. Whilst there she took six ounces daily of a mixture, consisting of five parts of Griffiths' tonic mixture, and three of the compound decoction of aloes. Before she left that place she menstruated sparingly once, and from that time forward she entirely ceased to be the subject of her former ailments, and rapidly became possessed of a greater degree of health and strength than she ever possessed before. The catamenial function was perfectly re-established.

Mrs. B., a widow lady, experienced a suppression of her menses in consequence of a sudden domestic misfortune. Soon after this result she became the subject of frequent pains in the uterine and lumbar regions; and she totally lost all relish for food. She, moreover, became rapidly emaciated in her person; which she attributed to a profuse leucorrhœa that had almost immediately supervened upon the suppression of her catamenia. When the author first saw her, she had been the subject of a variety of anomalous symptoms essentially the consequences of her suppression for two years and a half. At this period she was become exceedingly depressed in her spirits, the subject indeed of a distressing and downright melancholy. She also complained of a dry teasing cough. She could, however, take a deep inspiration without inconvenience. She flinched in some degree upon the application of firm pressure to the hepatic region. She was occasionally much annoyed by violent palpitation of the heart; but at other times she was totally free from that symptom. Sustaining constantly a profuse discharge of fluor albus, she was not without apprehension that she was become the subject of a fatal organic disease of the uterus or of parts essentially connected with it. She was further disposed to this opinion by the fact, as she believed, that she could often distinctly feel a considerable tumour in the left iliac region. This notion was, however, unfounded. The uterus was itself structurally sound and healthy, nor could any tumour be felt to occupy the left iliac region by the most careful employment of the taxis. The patient had taken great quantities of medicine; of which the principal she believed to have consisted of steel and salts. She also thought that she must have taken some gallons of decoction of bark. The author suggested to her the propriety of making a trial of the powerful remedy exhibited with so much advantage in the case just related. The mouth was made slightly sore by three doses of calomel and opium, in the proportion each of four grains of the former to one and a half of the latter. The influence of the remedy was kept in the mouth and in the system for four entire months. At the end of that period the patient considered herself, in many important respects, improved in her health. The catamenial function was not, however, satisfactorily established until after the lapse of several months subsequently. When that long-wished-for event happened, the patient was taking in considerable doses the compound mixture of iron and the compound decoction of aloes. She always, however, considered the great restorer of her health to have been the mercurial charge. She observed that

she never wanted a good appetite after she had been made the subject of that treatment. On the re-establishment of her proper menses, the fluor albus totally ceased to annoy her.

A young lady, aged twenty-six, became obstructed in consequence of exposure to a drenching shower of rain in an open boat, hired to take a small party to Richmond, in the summer of 1824. It was several hours before she had an opportunity of changing her dress. She went to bed shivering and cold, and at the same time complaining of severe pain in the back, soon after she got home. Next day she was very feverish and indisposed; but no medical practitioner was consulted in her case. At the period proper for the next menstrual appearance, she sustained no change, excepting that she became the subject of a profuse discharge from the vagina of a glairy semi-transparent fluid, accompanied by uterine pains and also by pains of the loins and thighs of extreme violence. On this occasion a medical gentleman was consulted, who administered purgative saline medicines in profuse quantities. Leeches and fomentations were at the same time applied to the abdomen. But the suspended function was not restored. The sero-mucous discharge, for its character was scarcely leucorrhœal, had but slightly abated since the commencement of the disease, and it now presented itself in quantities which required the use of eight or ten napkins a day. In the mean time the patient rapidly lost her health and strength. She sometimes experienced distressing sickness, even to vomiting, for several days together. At other times she was the subject of extreme depression of spirits; and at others she was tormented with hysterical affections of great severity. The catamenial function had been suspended for fifteen months when the author was first consulted. At that time the operations of the digestive organs were exceedingly disturbed and embarrassed. Those of the bowels, especially, were become most irregular. In consideration of this prominent feature of the case, the author was induced to determine his principal attention to the restoration, if possible, of a healthy state of the chylopoietic functions. In this object however he only very partially succeeded; whilst no impression whatever was made upon the principal malady. After several weeks were uselessly occupied by these attempts, the patient's friends induced her, on her physician's earnest recommendation, to consent to take a full charge of mercury; which it was strongly impressed upon her could scarcely fail to be productive of important advantages. The remedy was administered in sufficient quantity to excite considerable action of the salivary glands in the course of about ten days; and that action, together with some soreness of the mouth, was kept up for thirteen weeks. At that time the patient experienced a sudden and profuse eruption of her menses. From that moment she rapidly recovered her health, and has enjoyed it in full possession ever since. She is now blessed with a good husband and two healthy children.

The following narrative, communicated many years ago to the editors of the *Ephemerides Germanicarum*, may be quoted as furnishing a remarkably good

evidence in favour of the powerfully deobstruent efficacy of mercury in cases of suppression of the menses. "An unmarried female, aged twenty-six, of a scorbutic and cachectic constitution, became the subject of suppressed menses. When the catamenial function had been suspended for several months, she was seized with a tertian fever; which, however, by the exhibition of suitable medicines, was removed. After the lapse of some weeks, her feet, which had already been slightly œdematous, became greatly enlarged by anasarca. The intermittent fever also returned, but with a change of type from tertian into a quartan ague. This was followed by a swelling of the abdomen, and also by anasarcaous puffiness of the face. The urine was voided in small quantities, and presented a lixivious colour. Her breathing was oppressed and difficult. Her inferior extremities became more and more œdematous, as also spotted with indolent pustular eruptions. She was moreover the subject of a constant thirst." After two months of suffering she applied for assistance to Dr. Andrew Ernius, the learned reporter of her case. Agreeably to the practice of the times, that gentleman prescribed a variety of medicines chiefly diuretic in several complicated forms. But amongst others, he mentions *MERCURIUS DULCIFICATUS*, as one of the ingredients. "This," he then proceeds to state, "procured a more easy respiration, a freer discharge of urine, and the spots on the legs disappeared:" wherefore a cathartic was prescribed, consisting of *mercurius dulcificatus*, rhubarb, and two or three other things. "Which," observes the reporter, "PRODUCED NO EFFECT." But from that time A FLUX OF LIMPID HUMOUR APPEARED PER PALATUM; which continued for fourteen days and nights, discharging every day more than four pounds. THIS LYMPH CONTAINED SO MUCH ACRIMONY, THAT THE TONGUE AND ALL THE INTERNAL PARTS OF THE MOUTH WERE COVERED WITH ULCERS. By this discharge the swelling of the abdomen and feet decreased. But the discharge being so excessive, the patient earnestly desired she might be relieved of it, fearing lest otherwise she might lose her tongue and teeth. For this purpose Dr. Ernius prescribed antiscorbutics and mundifiers. The patient was ultimately liberated from all her complaints, and restored to perfect health. *Ephem. Germ. Dec. ii. an. 4, 1685. p. 91.* See an account of the good effects of calomel in a case of obstructed menses, *Simmons' London Medical Journal*, vol. vii. p. 413.

OF MENORRHAGIA.—This term would seem simply to convey the idea of an excessive flow of the menses. Inasmuch, however, as the uterus is not unfrequently the source of sanguineous discharges, unconnected or but slightly connected with the catamenial function, our neighbours the French have of late years substituted for menorrhagia the more comprehensive term *metrorrhagia*, as being better calculated to represent all discharges of blood from the uterus exceeding in quantity the natural produce of healthy menstruation. The menstrual evacuation, when it exceeds the limits naturally assigned to the function, thus ceases to be properly menstruation, and becomes uterine hæmorrhage.

But as we shall have future opportunities of discussing the subject of uterine hæmorrhage as an affection of the pregnant and puerperal womb, we have here to give our exclusive attention to that of discharges of blood from the unimpregnated uterus. This form of hæmorrhage presents itself most frequently at the menstrual period, and is therefore to be identified with that evacuation carried to excess; but it also sometimes presents itself during the intervals between two or more menstrual periods, and is to be ascribed to other causes. The amount of the produce of the natural secretion varies greatly in different subjects, and not unfrequently in the same individual at different times, and yet without being productive of any marked difference in the general state of the health. Hence the difficulty of determining positively and with precision the true differential line between menstruation and metrorrhagia. English physiologists have generally maintained that proper menstrual fluid is not blood, by reason of its wanting the coagulating principle; but this distinction, to say the least of it, if in point of fact it be well founded, can be of little value in practice; inasmuch as in almost every instance of excessive menstruation, the produce of the function is found more or less disposed to become partially coagulated. We have therefore to pay little attention practically to this supposed distinction, nor even in many cases to the quantity of fluid furnished by the function; but should be rather guided in our indications by the results of its influence on the constitution and by any functional derangements presumed to be produced by it.

Metrorrhagia may present itself under three distinct forms. The material of the function may be furnished at each period in excessive quantity; or the quantity during any part of the period may not be immoderate; but the period may occupy too many days; or the periods themselves may too frequently succeed one another, the intermediate intervals falling short of their natural and proper duration. It sometimes happens that these several modifications of metrorrhagia are complicated in the same subject; in such a manner for example that menstruation may be observed to return with too great a frequency, occupy more than the ordinary time, and furnish during each period an excessive quantity of the produce of the function. It sometimes happens that the evacuated fluid is distilled in a small quantity; but the process is continued for a long time, so as to become almost constant, the return of the periods being to be distinguished, only by an increased and a greater consistence of the discharge, and in some cases by a greater vividness of its colour. This form of metrorrhagia has been designated by some authors *menses stillantes* and *menorrhagia stillatitia*.

THE PROXIMATE CAUSE of metrorrhagia is probably a state of plenitude of the secerning vessels of the uterus, which, by over-distending them, and co-operating with the arterial propelling action bearing upon them from behind, has the effect of increasing the activity of the process of transudation by which the menstrual evacuation is produced. Another proximate condition of the menstruating vessels in such cases may be an enfeebled tone of their parietes.

Among the PREDISPOSING CAUSES of this particular form of hæmorrhage,

we may notice as the principal, AGE, EXCESS OF SENSIBILITY OF THE UTERINE SYSTEM, and A CONSTITUTIONAL OVER-FULNESS OF THE SANGUIFEROUS SYSTEM, especially of that part of it appertaining to the uterus and its appendages. With respect to the influence of age as productive of a pre-disposition to metrorrhagia, it is obvious that this latter must be greater during the menstruating portion of a woman's life than at any other time. It is however greatest at the periods respectively of the establishment and cessation of the menses. Other periods of life are not however exempt from hæmorrhages. La Motte refers to cases of hæmorrhages from the uterus in very young subjects, many years before the ordinary period of the establishment of the menstrual function; while experience amply proves, that women are not unfrequently brought to an untimely grave by profuse discharges of blood, usually the accompaniments of organic diseases, subsequently to the final cessation of the menses. Excessive sensibility of the uterine system is sometimes constitutional and even hereditary. In other cases it may well be supposed to be super-induced by circumstances and opportunities, more than usually favourable to sexual excitements and indulgences. On either supposition it should be considered as a powerful predisponent cause of menorrhagia. It has moreover been observed, that women who experience many miscarriages in quick succession, are rendered afterwards especially liable to profuse menstruations. We are informed by foreign writers that the use of footstoves has often been known to predispose to similar results; and the same thing may be stated of temperature, regimen, modes of living, and many other luxuries, which are peculiarly at the command of the prosperous and the opulent. Profuse discharges of blood from the womb may not unfrequently be observed to supervene on a previous suppression of the menstrual function. It is, moreover, a fact well known, that the newly-married are frequently subjects of a more than usually abundant secretion of the menses. Many of the circumstances which may be considered as predisponent to excessive sanguineous discharges, are such as should also be enumerated among their occasional causes. In addition, however, there are many occasional causes which on the other hand could scarcely with propriety be classed with the circumstances especially constituent of the predisposition.

The principal OCCASIONAL CAUSES of menorrhagia and other forms of excessive discharges of blood from the uterus, are violent actions and exercises of the body; sudden shocks sustained, whether of the mind or of the body; fatiguing rides, whether on horseback or in uneasy carriages; great exertions in singing, sneezing, and other actions of the respiratory organs; accidents from falls, especially if the parts about the sacrum and nates are found to sustain the principal injury; the action of some of the more tempestuous passions, as those of rage and terror; stimulating vaginal injections; irritating and ill-adapted pessaries; local excitants, of whatever kind; and finally, diseased states and morbid contents of the uterus itself. There is yet another class of causes

which require to be noticed; viz. those which we observe to depend on primary actions of distant organs. Hence it has been remarked, that inflammatory bilious fevers and acute gastric diseases have not unfrequently been attended by profuse and often critical discharges of blood from the uterus. The presence of worms in the intestines has sometimes been known to have kept up for many months a constant stillicidium of blood from that organ.

The character and consecution of symptoms incident to metrorrhagia may usually be observed to depend on the nature and peculiarity of its occasional cause. If the occasional cause be violent, the effect may take place either simultaneously or almost immediately afterwards. A woman who may happen to fall on her nates may find herself in an instant bathed in blood. It, however, more frequently happens that the hæmorrhage presents itself after a considerable interval of time subsequently to the application of the cause; and in that case we may usually recognise certain symptoms indicative of congestion in the vascular system of the uterus. In either case, and perhaps nearly equally, the discharge of blood may become so formidable as to expose the patient's life to imminent danger. An accidental cause may possibly happen contemporaneously with the regular menstrual period, when the result might be expected to be attended with greater danger. Such cases would especially require prompt and active treatment.

Hæmorrhages, arising more particularly from the operation of predisponent causes, are established more slowly, and are often preceded by premonitory symptoms, which may suggest very important prophylactic measures. In some cases the indications amount to little more than to a certain feeling of general uneasiness, accompanied by slight aching pains of the hypogastrium and loins, or by a sense of numbness or creeping coldness of the surfaces surrounding the external genitals. More frequently, however, such discharges of blood from the uterus are preceded by an increased fulness of the mammæ, by a feeling of tension in the loins, by a sense of more than ordinary plenitude, weight, and heat, and also by pains in the sacral and hypogastric regions, in some cases by constipation, general lassitude, and by acceleration of the pulse. To these symptoms succeed paleness of the countenance, contraction of the features, a sense of coldness of the extremities, and indeed of the whole surface of the body, accompanied in many cases by slight shiverings, and finally, and on the eve of the bursting of the dreaded torrent, a sense of great heat and pruritus in the genital passage. The flow of blood seems for a time to give relief from the pain and annoyance of the symptoms now described: but if the discharge becomes formidable by its quantity or duration, other symptoms still more distressing will present themselves in a rapid and alarming succession; viz. fainting, with or without an intense pain at the pit of the stomach, extreme paleness of the lips and of the whole face, great feebleness and smallness of the pulse, great diminution or entire suspension of the power of vision, tinnitus aurium or even abolition of the sense of hearing, loss of consciousness, embarrassed respiration,

ghastliness and distortion of the features, convulsions, and death. But the symptoms do not always follow in the same order of succession. In cases of women of a nervous temperament, disturbances of the nervous system present themselves at an early period of the discharge, and frequently before any alarming loss of blood shall have been sustained. Of these we may first notice an intense pain of the head; in some cases chiefly occupying the forehead, but most frequently the occiput. This pain, accompanied as it generally is by a distressing sense of throbbing, usually continues for many days and sometimes even for weeks after the cessation or subduction of the hæmorrhage. If the hæmorrhage, without involving the case in great jeopardy at any one time, is frequently repeated, or is prolonged in duration beyond certain limits, the digestive organs are apt to become seriously deranged. The patient loses her appetite. She becomes the subject of a constant sense of weight and oppression at the stomach. She gradually or rapidly, according to the amount of her successive losses, sinks into a state of languor and extreme feebleness; she becomes pale and emaciated; loses at once her spirits and her strength; her feet and legs become anasarcaous; then the abdomen, or chest, or the ventricles of the brain, or perhaps all these cavities together become the seats of dangerous hydropic effusions. But very profuse menstruations, and even uterine hæmorrhages involving ultimately the most serious consequences, may continue to harass their subjects for many years without inducing the terrific series of symptoms just enumerated. In many cases the metrorrhagia assumes a more moderate and passive character. The blood then lost, is of a less arterial hue; it is of poorer quality, being much more serous as to its consistence, and is usually furnished during each hæmorrhagic effort in much less abundance. Menorrhages of this variety are frequently succeeded during the menstrual intervals by more or less profuse leucorrhæal discharges.

THE PROGNOSIS in cases of metrorrhagia must obviously be founded on the nature of their cause or causes, on the intensity of the accompanying or consequent symptoms, on the duration of the malady, and on the strength of the subject. Discharges of blood depending upon temporary excitements of the sanguiferous system, or on any other transient causes, frequently cease spontaneously, and are generally in other cases easily subdued. At all events, they are only dangerous when they present themselves in extraordinarily profuse quantities. Long protracted cases are of course to be considered as more dangerous than those of once or twice repetition. Those which are become chronic, and also profuse in quantity, are usually rebellious in their management and disastrous in their issue. The profuse losses of blood which are sometimes sustained by young females about the period of the first appearance of the catamenia, are for the most part exclusively incident to that period, and rarely return after the complete establishment of the function. A similar remark may be made in respect to the alarming profuseness and irregularity of the menses in some cases at and about the dodging period antecedently to

their final cessation. If complicated at that period with an organic disease of the uterus, our prognosis of course would be less favourable.

THE GENERAL RULES OF TREATMENT in hæmorrhages from the unimpregnated uterus, are also for the most part applicable to cases of simple menorrhagia; the means which are best calculated to subdue the excessive discharges in the one case, being generally such as are best adapted to restrain it in the other. In the management of both classes of cases, we have usually three principal indications to meet. In all cases we have for our first object to remove the causes of the discharge; if they still continue to exist, and if they are supposed to be of such a nature as to admit of being removed: but, secondly, in the most alarming cases we have moreover to subdue the present flooding; and, thirdly, we have to prevent, if possible, the return, and to protect the patient against the effects of, future hæmorrhages. This last indication is more especially deserving of our attention in cases of periodical menorrhages.

In fulfilling the first indication, a deliberate consideration of the nature of the cause or causes will often suffice to suggest the remedy. Among the predisponent causes, we may observe that a plethoric state of the sanguiferous system is one of the most frequent. In that case the hæmorrhage itself is often an efficacious remedy. But this remedy is not always convenient nor capable of being restrained within safe and proper bounds; and it is further objectionable on the ground of its liability to dispose the uterus to become the seat of future hæmorrhages. For these reasons we prefer to arrest the spontaneous hæmorrhage by having recourse to artificial bleeding. To relieve the uterine congestion, it may often be very proper and necessary, to abstract blood, from time to time, from the genitals by leeches, or from the sacral region and the immediately adjoining surfaces, by means of cupping. In these cases, moreover, the greatest attention should be recommended to be paid to the very important subjects of diet and personal exercise. As a general rule, the one should be much reduced, and the other correspondingly augmented. During the presence of the hæmorrhagic nîsus the patient should observe the most rigid quiescence in a horizontal position. Her bed should be comfortable, without being too soft, and her chamber agreeably cool and well ventilated. If it should become necessary to apply cold to her person, the application should be sudden and only partial. If the stomach be embarrassed, or otherwise deranged, the exhibition of an emetic will be found both a safe and speedy remedy. Constipation of the bowels is sometimes an attendant, if not a predisponent cause, of uterine congestions and hæmorrhages. Their solution should be freely promoted, first by an active enema, and afterwards by a purgative, consisting of calomel and jalap, followed by saline aperients.

To meet the demands of our second indication, viz. that of arresting the discharge of blood, when by its profuseness or long continuance it threatens to involve the patient's life in jeopardy, not only must some of the above measures be adopted with great promptness and vigour; but some others, and especially the use of

the plug, will be required to be added to them. It is scarcely necessary to observe, that under the circumstances now supposed the artificial abstraction of blood could not for one moment be entertained; and even the exhibition of an emetic might here be attended with extreme risk. The application of cold should not be too long persisted in, as it might have the effect of confining the circulation too much to the interior of the body. In cases of extreme exhaustion from the loss of blood already sustained, it may sometimes be necessary to have recourse to the use of stimulants, such as wine, brandy, ammonia, laudanum, etc. But this part of the treatment of hæmorrhages will present itself for more ample discussion under a future head of subject.

Our third indication, that of preventing the recurrence of hæmorrhages in future, applies more especially to cases of great constitutional predisposition to menorrhagia and periodical hæmorrhages. One of the first things to be done to prevent the return of a hæmorrhage, is to meet the claims of our first indication by removing, if possible, the cause or causes known to have first produced it. We then place the patient under a strict regimen. Her food should be bland, moderately nourishing, and easy of digestion. It should consist principally of milk and plain puddings. Regular exercise should be enjoined during the intervals between the menstrual periods. On the approach of the next expected period, all personal exertion should be suspended, and the utmost repose both of body and mind strongly recommended. Country residence, if equally convenient or attainable, should be preferred to a town life. Heated and crowded rooms should be avoided, as also should be soft beds and excessive indulgence in sleep. All dissipated pursuits, all interruptions to a calm quiet life, and all means and opportunities calculated to excite voluptuous and other high-toned passions should be most positively proscribed. Moderate bleedings, repeated from time to time, from the arm, AND ESPECIALLY HAD RECOURSE TO A FEW DAYS BEFORE THE EXPECTED APPEARANCE OF THE MENSES, would, in many cases, form so important an item in the treatment, that it could not be dispensed with without great disadvantage. In cases of passive metrorrhagia, and in all others in which it should be an object to produce permanent effects, and to remove a functional disorder already become habitual and obstinate, the practitioner must rest his principal dependence upon the advantages to be derived from the observance of a strict and judicious regimen in the most enlarged sense of that expression. The use of tonics is not unfrequently indicated as important auxiliaries to the effects of such a regimen. The best tonics are the quinine, preparations of iron, and the mineral acids. Cold and sea-bathing are frequently prescribed in these cases with much benefit. The hip-bath and injections of cold and astringent fluids into the genitals have also sometimes been attended with excellent effects. When all these measures fail, the author feels authorized by the results of his own experience to recommend the exhibition of a full, but cautiously administered, charge of mercury. In the absence of organic disease of the uterus, that great remedy would rarely

fail to effect the subduction of the hæmorrhagic habit, and to restore the patient to her former state of health and strength.

OF DIFFICULT MENSTRUATION, OR DYSMENORRHEA.—Menorrhæa difficilis; stranguria menstrualis, hysteralgia catamenialis. This variety of disordered menstruation is a tedious and painful performance of the catamenial function. The quantity of the menstrual fluid is generally sparing when the function is attended with more than usual pain and distress to the patient, although this is not to be considered as essentially characteristic of dysmenorrhæa; nor is the length of time which the period may occupy necessarily a part of its definition, although it embraces in some cases a greater number of days, and in others fewer than it is usual for the function to occupy under different circumstances.

The PROXIMATE CAUSE of dysmenorrhæa is almost always obscure, if not impossible to be determined. It may be supposed in some cases to be an inferior degree of the same proximate condition of the secerning organ, as may be presumed in a greater degree or in a more intense form to be productive of complete suppression of the menses. It is probable that the impediments during the early stages of both forms of derangement may often during their earlier stages be exclusively functional; but the terms which have been usually employed to represent such a state of action of the parts concerned, have not so much expressed known facts as theoretical notions and assumptions of the parties using them. In reality we do not know, and perhaps cannot positively know, the essential condition of an organ, however peccant, which we assume to be only functionally diseased. It may however be easily understood that, when a viscus shall have been painfully affected for many years, though for a long time only functionally embarrassed and disturbed, it will seldom ultimately escape becoming the seat of structural disease. Accordingly modern pathology has pretty satisfactorily established the fact, that long continued disturbances of the functions of the uterus seldom or never fail to terminate in some form or other of disorganization of its own or dependent tissues. This statement will be especially illustrated when we come to treat of the subject of leucorrhæa.

The symptoms of dysmenorrhæa are very numerous and multifold. They are, pains in the hypogastric and lumbar regions; aching pains of the thighs; a sense of numbness and inertia of the lower extremities generally; a sense of great fulness and tension in the region of the uterus; pain and a sense of fulness in the head not unfrequently followed by epistaxis; difficult and oppressed breathing; indisposition and inability to make any personal exertions; a teasing cough from an overfulness of the bronchial vessels, accompanied in some cases by hæmoptysis: disturbances of the gastric functions, such as nausea, vomitings, cardialgia, gastrodynia, flatulencies; faintings; hysterical and other nervous affections; gradual diminution of the menstrual

secretion, and final establishment of an obstinate chlorosis. The more urgent pains incident to difficult menstruation are commonly referred to the uterus itself as their seat. In some cases they are said to be accompanied by a sense of throbbing, as if depending upon inflammatory action; whereas in general they are described as being intensely aching pains, as if more dependent upon a certain condition of the nerves of the uterus. During the intervals of painful menstruation, the patients are in most cases subject to a profuse leucorrheal discharge.

The treatment of dysmenorrhea must have two principal indications for its object; viz. first to relieve the present symptoms, and eventually to cure the disease by the subduction and removal of its cause or causes. For what it is presumed will be found an adequate discussion of these subjects, the author has respectfully to refer his readers to the next article; the treatment of dysmenorrhea being in many cases to be identified with that of fluor albus.

OF LEUCORRHEA.—Fluor albus, fluor vel fluxus muliebris, fluxus matricis, fluxio alba, profluvium muliebre, distillatio uteri, menses albi et menstrua alba, menorrhagia alba, alba purgamenta, uteri coryza et rheuma, uteri rheumatismus, blenorrhea benigna, etc. Leucorrhea is literally a white discharge: but the word has been used, in common with its numerous synonyms, to express great varieties of non-menstrual discharges from the female genitals.

To understand the pathology of the several tissues, the diseased conditions of which are proximately the causes of leucorrhea, it is obviously necessary we should have a correct notion of their structural character in their healthy state. Leucorrhea is a morbid secretion of the complicated tissue which forms the internal surface continuously of the vagina, the uterus, and the Fallopian tubes. All mucous membranes have two surfaces, of which one is free, villous, and unceasingly employed in the transudation of its proper mucous; whilst the other is adherent to a tissue of muscular fibres, which by their tonicity and irritability may be presumed to be well adapted to promote the actions of secretion and excretion. We also, almost in all cases, where free surfaces are continuous into muscles, are able to recognise an intermediate couch of a dense compact tissue once deemed cellular, but more recently supposed to be fibrous and aponeurotic. This part of the structure is probably intended to give form and solidity to hollow organs. Moreover, it is not improbable that this intermediate couch may act concurrently with the free surface in producing the rugæ which in some parts are presented by mucous membranes: such for example are those which we observe in the vagina, especially in the anterior and inferior part of it, immediately behind the urethra; and such also are the valvulæ conniventes so remarkably apparent in the colon and the cæcum.

The mucous membranes are composed of three distinct layers; viz. an epithelium, a papillary tissue, and a chorion. The former of these is only traceable at the orifices of cavities, and to a very short distance within them:

whereas deeply within their interior no examinations have hitherto satisfactorily demonstrated its existence. The papillary tissue is situated immediately beneath the epithelium; by reason of the extreme tenuity of which, where it may even be supposed to exist, it presents an organ of exquisite sensibility. The prominencies of these papillary bodies are especially apparent at the very commencement of cavities or passages; whereas on advancing further into their interior, the surfaces are seen to present in a greater degree the proper character of a villous tissue. These papillæ are every where surrounded by a vascular network of great sensibility. The length and form of the papillary bodies present characteristic varieties in the mucous membranes of different parts of the body.

The chorion which forms the third tunic of mucous membranes is not every where of the same thickness. At the palate for example it is very thick, as also it is in the parietes of the vagina; but it makes but a very slender contribution towards the formation of the parietes of the intestines and of other excretory passages. It seems to form a tissue of much greater closeness of texture than the chorion of the common integument; inasmuch as it has never been known to admit of serous infiltrations through its substance; whereas all the tunics of the skin taken together are not sufficient to resist such infiltrations.

Within the substance of the chorion of mucous membranes, and especially imbedded in its external surface, THERE ARE GREAT NUMBERS OF MUCOUS GLANDS, which unceasingly lubricate the free surface of these membranes with their appropriate mucous produce. These glands are easily seen within the mouth and on the bronchial surfaces; but they are very difficult to be traced in the bladder and within the cavity of the uterus. It is said that they are rendered very evident by maceration. Disease has the effect of very greatly increasing their volume as well as of morbidly altering their texture. The author recollects the case of an unmarried woman, aged about forty, who had been subject for many years to severe hysteric paroxysms, difficult menstruation, and profuse leucorrhæal discharges. She died of schirrus of the pylorus. On examining the state of the internal genitals, it was observed that the left ovary was greatly enlarged, and otherwise much diseased. The internal surface of the uterus was of a darkish red colour, and suffused with a thick lining of a purulent looking fluid. The vagina was studded in many places with prominent and indurated glandular bodies, of which several were as large as peas, and two or three as large as hazel-nuts. The crypts or openings of these glands communicate freely with the surfaces which it is their special office to lubricate with the mucus which they unceasingly secrete. The term mucus is here used to represent the products of the entire class of muciparous glands; although in different parts of the body, and under different circumstances in the same parts, they greatly vary in their consistence. They may be said in general, when healthy, to be about the consistence of a dilute solution of gum in water. When recently secreted they are diaphanous and slightly viscid. By being allowed to lodge on the surfaces which they are intended to protect by their

pellucid coating of delicate and natural varnish, they become, in some cases, progressively opaque, and acquire a manifest increase of consistence. When secreted, under circumstances of disease, they all sustain some changes of their natural and ordinary properties.

When mucous membranes are for a long time exposed to the action of the atmosphere they gradually lose the vivid tint of their sub-sanguineous redness of complexion, and become of a whitish-brown colour, not unlike that of the common integument. That fact may be particularly observed in cases of inversion of the rectum and the vagina of long standing; and it may be considered as presenting a striking analogy between the functions of the skin and those of the mucous membranes. These membranes are indebted for their red colour to the innumerable sanguiferous vessels which are distributed into their structure; and their colour increases in intensity in proportion as their functions are more actively performed. It is an observation of Bichat, that the mucous membranes of the infant become suddenly more vividly red immediately after birth; almost all of them, in consequence of that event, being called upon to perform new or additional duties. In common, indeed, with all living structures, their colour acquires an increase of intensity when they become the subjects of inflammation. When the inflammation is active, their secretions are usually, on the onset of the attack, much diminished; a change however which is speedily afterwards followed by more than a corresponding increase of their quantity, and by great vitiation of their properties. But the dates, respectively, of the invasion and consecution of the several symptoms incident to the inflammation of mucous membranes are governed by different laws as they apply to different portions of this class of tissues. There is one great principle which is common to them all, viz. that in a comparatively short time, subsequently to the application of the cause, their respective secretions are greatly augmented and vitiated. Hence these important results of inflammations of mucous membranes have been assumed by pathologists as the basis on which they have formed their classifications in systems of nosology. Accordingly in all of them we find these principal phenomena represented by the very names which have been given to them in practical and systematic works. These designations have varied indeed slightly in shades of meaning as they have been employed to express the affections of different organs; but the identity of the common and characteristic results of the diseases intended to be represented by them seems to have been recognised in all ages and countries. The idea of a catarrh or defluxion prevails through them all. Hence inflammations of the mucous membranes of the nose, trachea, bronchi, intestines, and genitals, have severally received the designations of coryza; catarrh of the trachea or croup; bronchial or pulmonary catarrh; dysentery and diarrhea; and gonorrhea, blenorrhea, and leucorrhea. The same observation applies to almost all the different names, at the head of the present article, by which the inflammation of the mucous membrane of the

genital passages has been characterized by different writers. The term inflammation, as applied to any given structure, may indeed represent many distinct varieties of morbid states; and it is accordingly a fact, that the mucous membranes of the female generative organs are subject to inflammatory affections of many different kinds; and moreover, when thus variously affected, they are found, as might be expected, to furnish morbid discharges of corresponding diversities of sensible properties. Hippocrates, in his second book on the diseases of women, describes clearly as many as ten different varieties of morbid discharges from the uterus. Other authors, among whom are to be found some of the principal nosologists and pathologists of modern times, have reduced their number to five, six, and seven, according to the opinions which they have respectively entertained of their several causes. The most common variety of these discharges is that which has received the ordinary designation of constitutional leucorrhœa.

The essential symptom which the term leucorrhœa literally expresses, viz. the mucous defluxion, is usually preceded by an increased redness of the affected surfaces, and also by exquisite pain on exposure of the part to the slightest cause of irritation. These are followed in the course of a longer or shorter period, generally in two or three days, by an irregular discharge of a fluid of variable colour, consistence, and quantity from the vulva; accompanied by a sense of heat and pruritus, which the patient indistinctly refers to the uterine region; difficulty and a scalding heat of the orifice of the urethra in making water; a dull aching pain in the hypogastrium, sometimes extending to the groins and to the inside of the thighs, and likewise to the loins and sacral regions; an inflammatory enlargement of bulk of the papillary prominences, and in short of all the constituent tissues proximately implicated in the disease; excoriations of the sexual surfaces; in some cases, likewise, by an inconsiderable descent of the uterus, probably to be ascribed to increase of its size and weight; and also generally by a more than ordinary patulency of its vaginal orifice. Practical writers on this subject have distinguished leucorrhœa into acute and chronic; and the distinction is indeed very important in practice. The first invasion of the disease is almost always characterized by the presence of acute symptoms. Under the circumstances of that form of fluor albus, its symptoms have sometimes been distributed into certain consecutive assemblages, so as to form so many distinct periods of the malady. Those of the first period are a pruritus of the sexual surfaces extending along the vagina as far as the uterus, gradually increasing in degree so as ultimately to become intolerable, together with a frequent desire to void the contents of the bladder. The second period commences on the third or fourth day with a slight discharge of a clear viscid fluid from the vagina, accompanied by great heat of the surfaces previously the seat of the pruritus. The material of the discharge increases rapidly in quantity, and its colour becomes yellowish or green. The ardor urinæ also greatly increases in intensity. These symptoms are accompanied by a sense of painful

fulness and throbbing of the labia pudendi and perineum, and by the deep aching pains of the parts within and in the neighbourhood of the pelvis already adverted to. At this period there is often present some degree of febrile action. This first stage of the malady is usually of four or five days' duration. On the accession of the third period, the inflammatory symptoms become less intense; the discharge assumes a deeper colour, thickens in consistence, and diminishes greatly in quantity. The fourth period is marked by some changes and alterations in the appearance and quantity of the profluvium; it being sometimes more abundant, and nearly transparent, and at others less in quantity, and of a creamy or milky white colour. It then retires for a few days and again returns. It usually disappears altogether in about five or six weeks from the date of its commencement.

The symptoms of chronic leucorrhea, are those principally of extreme irregularity in the date and consecution of its phenomena, and an almost absolute absence or very slight and uncertain returns of inflammation. It is also characterized by little or no manifestation of a disposition towards a perfect recovery; by the cause of its accession being frequently unknown and unascertainable; in other cases by its being known to be the sequel of acute leucorrhea, and finally by its unlimited duration.

Practical and systematic writers have moreover introduced many useful distinctions into their pathological histories of leucorrhea, founded on their apprehension of the causes of the disease, and on the characteristic appearance and other sensible properties of the material of the discharge. It has been already stated that Hippocrates distributed leucorrhea into ten separate varieties. Some of his successors carried the number up to seventeen. Sauvage reduced the ancient number to nine; Raulin, *Traité des Fleurs Blanches*, further reduced it to seven; and Cullen, *Nosolog. Method.* to two. The following series of epithets will give the reader a sufficiently practical idea of the principles on which different writers have founded their respective divisions and sub-divisions. Leucorrhea aquosa, serosa, lymphatica, albida, viscosa, filamentosa, purulenta, lactöides, biliosa, uterina, vaginalis, simplex, complicata, recens, diuturna, intermittens, ulcerosa, fungosa, syphilitica, canerosa, Americana, Indica, schirröides, gravidarum, Nabothi, constitutionelle, metastatique, symptomatique, etc.

OF SOME OF THE PRINCIPAL PHYSICAL PROPERTIES OF THE DISCHARGE CONSTITUTING FLUOR ALBUS.—The quantity of the morbid fluid furnished by this disease varies according to circumstances. In acute cases it is much less in quantity in the first than during its third stage, and less still in every stage of the acute disease than we now and then meet with under chronic forms of the same malady. When it is considered that the extremes vary in this respect from a few drops, scarcely sufficient to soil the patient's ordinary linen, to several pounds daily, the reader will form some idea of the endlessness of the

intermediate varieties. This variation in the quantity of these defluxions, in different cases, are no doubt to be attributed to the diverse influences of seasons, temperaments, places of residence, states of gastric and other functions; all and whatever circumstances that may have a tendency to enhance the intensity of the disease. Thus it is a long-observed fact, that in chronic cases of this affection, the discharge is much more abundant in the winter than during the summer season. The reader may consult an interesting case in illustration of this point in *Selvaticus' Consilia et responsa Medica*. Cent. iv. No. 19. Very plethoric women, of a leuco-phlegmatic temperament, and of indolent habits, are, especially, liable to have these defluxions in profuse quantities. Leucorrhœal discharges are, moreover, much more abundant, as well as more frequent, amongst the residents of cold, moist, and marshy districts, than amongst those of dry, elevated, and open countries. It was the opinion of *Sanctorius*, that leucorrhœal patients are more or less the subjects of these morbid secretions, in proportion as the functions of the skin are more or less vigorously performed. They may likewise be easily supposed to be greatly influenced by the more or less healthy condition of the digestive organs. *Stahl*. *Colleg. Casual. Magn. Obs.* 68, p. 673, quotes the case of a female, who, by being accidentally guilty of excessive indulgence in the pleasures of the table, was unfortunate enough to enhance exceedingly in this respect, as well as in some others, the intensity of her malady.

The shades of colour of different specimens of *fluor albus* are almost endless. In *Blatin's* work, entitled "*Catarrhe Uterin. ou des Fleurs Blanches*," p. 33, we are furnished with a tabular sketch of the proportional frequency of the more common colours of these discharges. In a table of twenty-two cases the proportions are, of yellow and green twelve, of white six, of greyish two, of blackish one, and of bluish one. These several varieties of colour of leucorrhœal discharges do not depend upon their sources being uterine or vaginal surfaces, as has been thought by some authors, vide *Severin Pineau de Notis Virginitatis*, probl. 3, but rather on the forms and degrees of inflammation of the actual surfaces, whether uterine or vaginal, by which they are secreted. The consistence of the material of the discharge is also as variable as its quantity and colour; the variations in this respect presenting, at one extreme, the limpid liquidity of serosity, and at the other the glutinous viscosity of semi-coagulated albumen. A similar observation is applicable to the odour of discharges from the female genitals. The odour of these discharges, even in their healthy state, is peculiar, and certainly not, under any circumstances, agreeable; but nevertheless, they present such characteristic differences of fœtor, as often enable experienced practitioners to judge of the morbid conditions of the passages by which they are furnished. For example, the odour is not unfrequently characteristic of incipient putridity, as sometimes happens from simple stagnation. In other cases, as during pregnancy, it gives the idea of an acrimony approaching to a degree of alcalescency. The presence of foreign bodies in the vagina, as that of

sponges and other pessaries, or of specific diseases, as of polypi and other fungoid excrescences, cancerous ulcerations of the internal genitals, and charges of morbid substances within the uterus, are respectively attended by discharges of which the odours are so peculiar and so different from each other, as are those of rue, roses, and assafœtida. Nicholas Pechlin, *Observationes Medico-Physicæ*, lib. i. Obs. 21, speaks of a lady who had the curiosity to taste the substance now describing, and who reported "that its flavour was excessively acrid and lixivious, and that her mouth was so infected with it, as to oblige her to use a gargle to rid herself of it." Under certain peculiarities of circumstances incident to these discharges it has been repeatedly asserted, the author is not able to judge with what accuracy, that ascarides and other varieties of worms have been generated within the female genitals and from time to time voided by the external orifice, accompanied by a most abominable fœtor. Jean Storch. *Observation Cliniq. an. viii. No. iii. p. 463.* Cockson, *Comment. Medic. No. iv. p. 88.* Mauriceau, *Art des Accouchmens, Observ. Chirurg. Cent. i. Obs. 61.* Ovelgunius, *Nova Acta Nat. Curios. tom. iii. Obs. 60.* Blatin, *Catarrhe Uterin. p. 39.*

OF THE SOURCE OF FLUOR ALBUS.—It was once a very general opinion, and it more or less prevailed from the time of Hippocrates to that of Boerhaave, that different parts of the body might be sources and agents in the production of the subject matter of leucorrhœal discharges, as the stomach, liver, spleen, etc.; and that the uterus only performed the office of a common emunctory. Avicenna, *Tract. iii. cap. 32*, was probably the first writer who considered the menstruating vessels of the uterus to be the source of fluor albus. Fred. Hoffman, in adopting the same opinion, distinctly states, *De Cachexia uteri*, "that the seat of the cachectic disease is altogether the uterus." Plater, *de aquosis excretis*, lib. ii. cap. 7, maintains that the menstrual secretion is a produce of the uterus itself; but that the matter of leucorrhœa is furnished by the neck of the womb. De Graaff, on recognising the excretory orifices of the muciparous glands about the orifice and within the neck of the uterus, as also those about the orifices of the vagina and urethra, felt himself justified in suggesting what he considered a new doctrine upon the subject, viz. that fluor albus is the produce of a diseased action of the glands in question. This opinion, as far as it went, may be considered as well founded. But it has been proved by the ulterior researches of Charleton, Boehmer, and Morgagni, that all the internal surfaces both of the uterus and of the vagina, either the one or the other, and also partially or wholly, may be the source of fluor albus.

THE PROXIMATE CAUSE OR CAUSES of the morbid discharges now under consideration, in common with those of most other diseases, are involved in much obscurity. They must of course consist in morbid actions of the muciparous glands, exhalant arteries, and possibly of some other primary tissues of the mucous membranes concerned in their production.

THE REMOTE CAUSES, WHETHER PREDISPO-NENT OR OCCASIONAL, ARE VERY NUMEROUS.—Of the former, many are unavoidable as to their influence; being physically inseparable from the constitution and mode of being of the subjects in which they inhere. Among the circumstances here referred to, age or period of life may be cited as a principal example. It is indeed well known, that no age is exempt; but experience has equally established the fact, that leucorrhœal discharges are much more frequent between the ages of puberty and of the ordinary cessation of the menses, than at any other period of life. In a calculation on this subject, founded on observation, Blatin has grouped the results of his experience under the heads of three principal epochs of life; viz. 1st, of the years preceding the establishment of the menstrual function; 2nd, of the menstruating years of a woman's life; and, 3rdly, of the years intermediate between the cessation of the menses and the close of life. This distribution can scarcely be said to be arbitrary; inasmuch as it is obviously founded upon circumstances which are constant in their influence, and which are moreover known to exert great influence in the production of uterine catarrhs. The proportional frequency of leucorrhœal discharges as given by M. Blatin at the three given epochs of life just mentioned are as follows: Out of a hundred and thirty-five subjects of fluor albus, fifteen belonged to the first epoch, a hundred and six to the second, and fourteen to the third. Blatin, *des Fleurs Blanches*, p. 42.

It is a general opinion that a LEUCO-PHLEG-MATIC TEMPERAMENT greatly predisposes to uterine catarrhs. However that may be, there is no question as to the influence in this respect of an unusually delicate constitution, whatever we might find to be its accompanying temperament. It is therefore a very well-founded general observation of Baillou, that “*Quo enim magis ægrotantes extenuantur, partes replentur muco.*” There is moreover no question as to the existence in certain families of a HEREDITARY PREDISPOSITION to leucorrhœal discharges.

A lady, of about thirty-five years of age, once consulted the author for fluor albus, from which she had been more or less a sufferer since she could remember. Her constitution was leuco-phlegmatic. She was fond of society; but by reason of the great delicacy of her health she was frequently obliged to deny herself the pleasure of partaking in its enjoyments. Her mother was then living, but she also had been subject, during the greater part of her life, to delicate health and to leucorrhœa. In the course of the author's attendance, his patient requested his attention to the state of health of three of her daughters, children between ten and four years of age, who had all become the subjects, within two or three days of each other, of a profuse leucorrhœal discharge. Their bowels were stated to be considerably disturbed; but no other cause could be assigned for the accession concurrently in the three cases of a diseased action of surfaces so seldom presenting itself in young children. The children were easily cured by a few doses of active purgatives. The mother's case was treated by cantharides, by the use of which she was very substantially benefitted. Raulin, *Traité*

des Fleurs Blanches, tom. i. J. Galbrand de Sanguifluxu Uterino, p. 34. M. Mahon, Mémoires de la Société Méd. d'Emulation, tom. iii. M. Ramel, Journal de Médecine, tom. lxiv. A series of cases in illustration of the same fact by M. Blatin, Catarrh. Uterine, p. 289.

CERTAIN CONDITIONS OF THE UTERUS as to volume, position, organization, and functional relations to other organs, might be presumed in many cases to predispose to leucorrhœal discharges. It is well known what important results in this respect are produced by descents of the uterus. The uterus is also often much enfeebled in its tone by the prodigious distension which it has successively to sustain during gestation. Accidental injuries inflicted on it must obviously predispose to similar results. Sabizius de Affect. Mulier, tom. ii. cap. 10.

RESIDENCE IN COLD AND HUMID COUNTRIES have been frequently enumerated by authors among the influences predisposing to leucorrhœa. Silvius de Le-Bœ, a Dutch physician, observes, Prax. Médic. lib. iii. cap. 4, that "the cold and humid atmosphere and marshy soils of Holland and Belgium have the effect of rendering fluor albus endemic in those countries; although the women endeavour to modify those influences by the use of spirituous liquors and tea." Leucorrhœal discharges, in common with other catarrhs, are said to be endemic at Berlin, where it is supposed to depend upon the peculiar locality of that city, which is low and surrounded with marshes. Decad. ii. Act. Médic. Barolin. tom. iii. et iv.

It is said that THE AUTUMN predisposes to leucorrhœa more than any other season of the year. This we may well presume can only depend on the special influence of that season on the constitution of the atmosphere. Raulin states, that in August and September 1765, when the weather at Paris was remarkably hot and dry, many women were attacked with fluor albus who had never experienced it before, and that many of those who had, became then much greater sufferers from it. Diseases of the skin, phlegmonous tumours, measles, small-pox, and sore-throats were likewise very prevalent at the same time. Leucorrhœal profluvia were endemic at Berlin, in December, 1722; when it is also stated that pulmonary catarrhs were exceedingly prevalent. The year 1769 was remarkable for the unusual frequency of its changes of temperature. During the Christmas of that year there was a sudden transition from an extraordinarily high temperature to that of extreme cold. It is observed by M. Blatin, p. 76, that in a small town in France there were during that period sixty of its female inhabitants of all ages seized with profuse leucorrhœal discharges, in consequence as was supposed of the sudden change in the temperature of the atmosphere then experienced. Many English writers have considered the frequency of fluor albus in this country to be principally ascribable to the frequency of its atmospheric changes.

Under the same head of atmospheric influence may also, without impropriety, be noticed that of SUPPRESSED PERSPIRATION. When the insensible perspiration is suspended, the function is very liable to be for the time super-

seded by the substitution of some other, as epistaxis, hæmorrhoids, diarrhea, etc.; but perhaps principally in females by leucorrhea. It is manifest that deficient clothing in cold and variable seasons may not a little contribute to predispose to leucorrheal discharges, by causing the exhalant action of the vessels of the skin to be diminished or suppressed.

THE ACTION OF CERTAIN FORMS OF DRESS, as that of tight stays, and ligatures of other vestments too tightly applied round the waist, might also seem calculated, as some authors have actually maintained that they are, to produce a plethoric state of the uterine system, and thence necessarily a predisposition to fluor albus.

DERANGEMENTS OF THE FUNCTIONS OF MENSTRUATION AND LACTATION deserve nearly equally to be considered as predisponent causes of uterine catarrhs.

THE OCCASIONAL CAUSES OF LEUCORRHEAL PROFLUVIA are so numerous as not to admit of being illustrated, however briefly, by reference to particular cases. A mere enumeration of them must therefore, for the present, suffice to give the reader a practical idea of their amount and importance. The following list, it is presumed, will be found to include the greater number of them; viz. sudden changes of climate; great or sudden depression of the general health from whatever causes; the presence of morbid substances within the uterus, as of portions of retained placenta, molæ, masses of hydatids, and remnants, in whatever forms, of blighted ova; tumours of almost all varieties adherent to or dependent from any of the genital surfaces; irritation from pessaries and other foreign bodies introduced into the vagina; excessive indulgences of the sexual passion; mercurial frictions, Pinel, *Cours de Pathologie*; the drinking of unwholesome waters, and the injudicious use of mineral waters; deficient and irregular action of the function of digestion; constitutional taints, as from gout, scrofula, syphilis, etc.; sudden repulsion or retrocession of cutaneous eruptions; translations of purulent and other morbid deposits; suppression of accustomed evacuations, although in some cases the results of diseased actions, as of coryza, excessive expectoration, hæmorrhoidal discharges, diarrhea, spontaneous vomitings, etc.; neglect of habitual bleedings; incautious drying up of issues, setons, perpetual blisters, etc.; febrile diseases; gestation; abortion, and especially a succession of abortions; parturition and the consequences of slow recoveries; in female children difficult dentition; and in females of all ages the presence of ascarides in the rectum; and finally, all depressing moral influences.

OF THE MORBID EFFECT OF LEUCORRHEAL DISCHARGES UPON THE ORGANS IMMEDIATELY CONCERNED, AND UPON THE GENERAL HEALTH.—It is a fact that structural diseases of the uterus and its dependencies are often proceeded during many years by fluor albus. Dropsies and cachectic diseases of various names and forms are consequences and probably effects of chronic leucorrheal

profluvia. We may indeed observe, that the functions of sense and even the faculties of the mind are not unfrequently injured by profuse and long-continued leucorrhœal discharges. Among the inconvenient effects of profuse fluor albus, is one which in the connubial state a very frequent attendant upon it, viz. an almost absolute indifference to the conjugal embrace. In some cases, indeed, a stronger expression might be made use of to represent this fact. The opinion of a distinguished female well versed in matters of this kind will be received by the reader at least with candour. “Quibuscumque matricis humor ad vulvam respondet, harum corpus frigidum est, nec possunt aliquo modo masculi cœtum gratum habere : frigidum vero corpus intrinsecus habent usque in extremas partes.” Cleopatra, *De Matrice Humerosa*.

Sterility should be placed amongst the occasional results ; although it is not essentially and invariably an effect of fluor albus. An ancient poet, who was also a great high-priest of nature, was no doubt well aware of this fact when he propounded the following explanation of it :

“Nam steriles nimium crasso sunt semine partim,
Et liquido præter justum tenuique vicissim.”

LUCRETIVS, *De Natura*.

Some authors have ascribed the very dangerous form of ophthalmia which sometimes attacks infants immediately after birth to their exposure to the infecting virus of leucorrhœal, or perhaps of morbid secretions of a more specific character, during their transit through the maternal passage. The injuries sustained by the general health from leucorrhœa in its most severe forms are so numerous as to include in their catalogue, besides many others, almost all the cachectic diseases to which the human female is liable. But uterine profluvia are not only thus injurious by the direct effects which their presence and long continuance scarcely ever fail to produce ; but also often indirectly by being suddenly diminished and suppressed. When these discharges have been established for many years, their sudden suppression seems to be scarcely less dangerous than that of the catamenial function itself ; and we may moreover observe, that the effects of the suspended function in the one case and of the suppression of the morbid produce of the diasease in the other bear a most striking analogy. Among the effects of suppressed leucorrhœa, which have been most frequently reported by authors, we may perhaps be permitted to enumerate the following : viz. dysuria ; inflammation of the uterus ; ulcerations of the uterus consequent upon such inflammation ; hæmorrhoids ; profuse perspiration of particular parts, as of the feet, and sometimes of the whole body ; humid and pruriginous eruptions ; deep-seated pains of the head, shoulders, or lower extremities, often erroneously referred to a rheumatic, gouty, syphilitic, or other imputed morbid taints in the habit ; miliary fevers, proximately perhaps the effect of profuse and fœtid perspirations ; catarrhal fevers ; gastric fevers ;

visceral diseases and dropsies; acute and chronic inflammations of the intestines; diarrheas and dysenteries; diabetes; bronchial inflammations and phthisis; gout; neuralgic affections; hysteria and other diseases of the nervous system. Mrs. M., aged 33, had been the subject for many years of a profuse leucorrheal discharge. On receiving an account unexpectedly of the death of her only son she became exceedingly disconsolate, and sunk into a state of the most wretched melancholy. The leucorrheal defluxion to which she had been so long accustomed suddenly ceased; and this was followed by a sense of great heat in the uterine region, with much pain and difficulty in making water. The acute symptoms were relieved by the application of about twenty leeches to the vulva, and by the use of fomentations and aperient medicines. The leucorrhea was thus restored and became more profuse than ever. The moral wound was never healed; and the patient died cachectic in about four years afterwards. M. Blatin, p. 131, reports the following case from Roux' *Journal de Médecine*. "The wife of a marine, after experiencing a suppression of a leucorrheal discharge to which she had been long subject, was attacked with a violent inflammation of the uterus. Notwithstanding the adoption of active measures from the beginning, such as bleeding, semicupia, and the use of fomentations and enemata, the case terminated in suppuration. The abscess burst into the interior of the uterus, and gave issue to about two pounds of pus by the vulva. The patient recovered in two months." Blatin quotes also from Raulin the case of a lady, who, after having used all the means she could think of to rid herself of a leucorrhea which for a long time had greatly harassed her, placed herself in an alum bath. The consequence of that ill-advised measure was a sudden suppression of the discharge; which was soon afterwards followed by the formation of an ulcer in the uterus. Hæmorrhoidal ulcers presented themselves at the rectum, which were attended by violent pains of those parts. In the sequel she was attacked by a pulmonary consumption, which ultimately proved fatal to her. Benninger, *Cent. Observ.* No. 90, reports a very similar case. "An unmarried woman of virtuous reputation, aged forty, had been for a long time the subject of fluor albus. The discharge having been suppressed, she experienced pain of extreme violence in her loins and hypogastrium. There supervened an ulcer of the uterus; and the patient died in two years afterwards in a marasmus." The same writer quotes the case of a woman who was attacked with miliary fever, accompanied by delirium, convulsions, and other severe symptoms in consequence of suppression of a fluor albus to which she had been long accustomed. Sudorific drinks, blisters, and cinchona bark, were employed as remedies. The symptoms yielded, and the patient was restored to health. It is not stated whether or not the leucorrhea was re-established. The dangerous results do not always immediately supervene upon the suppression of leucorrheal discharges. In illustration of this point, the following case may be produced as an apposite example. A gentlewoman became the subject of an extremely fœtid and profuse fluor albus subsequently

to her first puerperal confinement. It however greatly diminished after her second confinement, and it ultimately totally disappeared. Subsequently to this suppression of the discharge, she gradually lost her appetite, and she became very thin and emaciated. At length she was seized with a tertian fever, of which the third paroxysm proved fatal to her. On opening the body after death, the lungs were found inflamed, of an unusual colour, and considerably shrunk in their volume. The uterus was greatly disordered as if gangrened; and was full of ulcerations and of a sanious fluid. Note by Thévert in Balloni Consil. lib. iii. cons. 96. The following is a case of acute enteritis, which was ascribed by the late talented Professor Pinel to the suppression of a leucorrhea. The subject of the narrative was thirty years of age when she had the imprudence when warm immediately after returning from a walk to plunge her feet in cold water. A sudden suppression of the leucorrhea supervened. A violent diarrhea came on in the night, which was speedily followed by a sense of tension and much pain of the abdomen. On the third day from the commencement of the attack, the tenderness of the abdomen was so great that the patient could scarcely bear the weight of her bed-clothes. At that time the pulse was small and contracted, the urine was voided with a sense of heat and pain, the bowels were constipated, the disease in short travelled through all its stages, and the patient was in great danger; but after copious evacuations from the bowels, she ultimately recovered. Pinel, Cours de Pathologie, art. enterite. A woman who for many years had been the subject of fluor albus, succeeded in arresting it by a nostrum which she took of her own accord. She did not however long sustain this suppression with impunity: for in place of the leucorrhea there supervened a diabetes, of which the characteristic symptoms were strongly marked. The patient died in about from three to four months. Baillou Consil. No. 56. A gentlewoman aged twenty-five, after indulging in excessive intemperance, was attacked with fluor albus, and with a dry pruriginous eruption. She combated both diseases with baths of vitriol and alum. Both were speedily suppressed. In three days however subsequently to their suppression, the glands of the neck became swollen, and the patient was seized with a violent cough. It was not long before the lungs became ulcerated. Of that, the natural consequence was hectic fever, to which was added what the author calls a putrid fever, with much prostration of strength. These symptoms were accompanied by a purulent expectoration, which was mixed with blood; and confirmed phthisis followed in the train. The patient died in about two years from the date of her imprudent use of the vitriol and alum bath. Ephemerid. Germ. An. vi. et vii. Obs. 103. The indication in a case such as the one just related, should have been the speedy re-establishment if possible, AT LEAST OF ONE IF NOT OF BOTH THE DISEASED ACTIONS, of which the patient had so unfortunately effected the suppression. The following observation is offered in partial illustration of that point. A woman aged thirty-five years was for three years the subject of a suppressed leucorrheal discharge, followed by an incessant cough and an abundant mucous

expectoration. Dry frictions of the feet, pediluvia, the repeated use of purgatives and of tonic diaphoretics employed assiduously for a fortnight, had the effect of dissipating the cough; and the fluor albus re-appeared in about eight days afterwards. Jesenius in *Prodromo ad Acta Medico-Physica* Haffn. p. 150. A gentlewoman aged twenty-five had been for four years the subject of a fluor albus, so abundant in quantity, that it had the effect of greatly debilitating her, and in quality so acrid and irritating that she could not sit down by reason of the local distress which it occasioned her. It was moreover accompanied by pungent and darting pains of the abdomen, which extended to the thighs, of extreme severity. The discharge, which was at first thick and of a whitish colour, became afterwards less consistent and green. The power of digestion was gradually undermined, and eventually became much enfeebled. The patient was moreover attacked with vomitings. It was intimated that she had taken pills in which ipecacuanha was a principal ingredient. The leucorrhœa diminished in quantity, and ultimately ceased altogether: but the discharge had scarcely begun to diminish when a cough supervened, which rapidly increased in severity. The expectoration which at first consisted of a thinnish mucus, was soon after mixed with blood. Hectic fever succeeded to these symptoms, and the expectoration became perfectly purulent. Confirmed phthisis presented itself as part of the last stage of the malady. On opening the body after death, the small intestines were observed to be much distended, and the larger ones to be unusually contracted. The mesenteric glands were obstructed. The other viscera were sound. The uterus was apparently healthy. The pleura costalis was adherent to the lungs throughout its whole extent. Two of the bronchial glands were of the size of walnuts, and were charged with a substance like suet. Another glandular cyst enclosed a spoonful of purulent matter, which was very fœtid. The left lung was studded with ulcerated tubercles. Its base adhered to the diaphragm, and seemed to be of a cartilaginous structure. The lobes of the right lung were also much diseased, being charged with scirrhus and purulent tubercles. It is scarcely possible to doubt that the fatal pulmonary disease in this case was the result of the diminution and eventual suppression of the once profuse leucorrhœal discharge.

OF THE DIAGNOSTIC OR PATHOGNOMONIC SYMPTOMS OF UTERINE AND VAGINAL CATARRHS.—Leucorrhœal discharges, as we have already seen, are properly morbid secretions from the glands, and transudations from the exhalant arteries, and possibly also in certain cases from the minute ultimate veins of the mucous membrane of the uterus and the vagina. But the produce of these morbid secretions may obviously be confounded as well as complicated with discharges from ulcers, and from abscesses, and with residual serosities and putrid solutions of coagula consequent upon hæmorrhages. Leucorrhœal discharges may in most cases be distinguished from the matter of a uterine ulcer by the histories respectively of the two diseases. Ulcers are usually preceded

by inflammatory symptoms of a much more intense character than those of leucorrhea, and are followed by unequivocal symptoms of suppuration; such as alternations of distinct chills and great heat of parts or of the whole body; a dry arid skin; flushings of the face often preceded or followed by a deadly paleness; fever, with an increase of the febrile action towards evening, and sometimes succeeded by profuse colliquative perspirations; fixed and intense pain in the uterine region, extending in many cases to the labia pudendi, groins, and the upper parts of the thighs. The discharge is moreover very foetid, variously coloured, often of a brownish hue, and not unfrequently streaked with blood. Hippocrates notices especially the throbbing character of the pain of the hypogastrium, and the exquisite tenderness of the part upon the application of the hand. *Hip. de Morb. Muliebr. sentent. 9.* The taxis alone can determine the diagnosis between an ulcer of the vagina and one occupying the neck of the uterus.

The diagnosis between discharges incident to uterine catarrhs and those furnished by abscesses of the womb, is to be deduced from the intensity and consecution of the symptoms of the latter malady, and from the obviously different characters of their respective discharges. The series of symptoms indicative of the formation of abscess are, a distinct rigour; great heat and pain in the hypogastrium for some days; afterwards an intensely throbbing pain more limited in its locality; gradual diminution of the pain and cessation of the throbbing; indistinct shiverings; and finally the establishment of the purulent discharge. The symptoms attendant on uterine catarrhs are less regular in their consecution, and for the most part essentially different in their type. On examination of the material of the discharges respectively, the subject produce of an abscess, it is well known, is found to be pus; whereas that from catarrh is essentially mucus. Poured into water the pus sinks into the bottom of the vessel, is easily divided and dissolves; whereas mucus treated in the same manner floats on the surface, and by being attempted to be divided is thrown into shreds of inseparable flocculent filaments. The matter of the discharge, in some of the more acute cases of leucorrhea, assumes very much the appearance of laudable pus; and it must be confessed that the diagnosis is occasionally attended with extreme difficulty. A lady was the subject, for two or three years, of a yellow thickish discharge, which was constant and profuse in quantity, from the vagina. The case was attended by some severe symptoms, and the discharge was identified with a purulent stillicidium from the left ovary, that organ being supposed to have formed, by ulceration, a direct communication with the cavity of the uterus. The patient died. On inspection of the body, the liver was found greatly enlarged and tuberculated; some of its lobulated encroachments extending as far as the left lumbar and iliac regions of the abdomen. The spleen was covered with a thickish coating of purulent matter. The intestines were closely matted together by the pressure which they had sustained from the enlarged liver, as well as glued together in many parts by adhesive inflam-

mation of their surfaces. But on inspecting the contents of the pelvis it was observed THAT THE UTERUS WITH ALL ITS APPENDAGES, NOT EVEN EXCEPTING THE LEFT OVARY, was in a state of perfect soundness. Both the ovaries were healthy and pretty well supplied with vesiculæ Graaffianæ.

It has been often a great desideratum in the profession to establish a satisfactory DIAGNOSIS between the matter of gonorrhea, the known or suspected result of impure sexual intercourse, and the produce occasionally of some of the severer forms of leucorrhea. It has been supposed that the accession of an irritating discharge from the vagina in a case never before the subject of any discharge at all, supervening upon a sexual congress within the usual time and after the usual manner of a gonorrheal affection, could be no other than the actual result of infection from that source. But it is a well-known fact, that the mechanical irritation attendant upon the first conjugal embrace is sometimes followed by a leucorrheal secretion so abundant, so painful in its accompaniments, and in all respects so similar in its sensible properties to the matter of virulent gonorrhea, as not to be distinguishable from it. The author has known many married ladies, the wives of perfectly HEALTHY husbands, who were never subjects of leucorrhea before marriage, and who have never been free from it subsequently. It has been a notion of some writers that gonorrhea alone is accompanied by extreme phlogosis of the surfaces forming the vaginal orifice, and especially by the symptom called ardor urinæ. Both those statements are unfounded in fact. De Graaff. de Mulier. Organ. p. 140, supposes that we may distinguish fluor albus from venereal gonorrhea by the respective localities of their sources; the former deriving its origin from the uterus, and the other being exclusively produced by a morbid secretion from the surfaces which form or are immediately within the genital sulcus; as those of the external orifice of the vagina, of the external orifice of the urethra, of the clitoris, nymphæ, etc. In refutation of this opinion it need only be observed that the surfaces just enumerated, are liable to inflammatory affections not to be distinguished in their appearance from similar conditions of parts produced by gonorrheal infection, though certainly never exposed to the action of that virus, and often perfectly well known to be the results of other causes of irritation. Authors have sometimes attempted to discover the means of a diagnosis between the discharges incident, respectively, to gonorrheal and leucorrheal inflammations of the mucous membranes of the genital surfaces, from supposed differences in their colour, odour, density, and quantity. Baglivi. Prax. Medic. lib. ii. cap. 8, art. 3, propounds as a principle of diagnosis in these cases, the assumed fact, that the leucorrheal discharge ceases during menstruation and vice versa. The experiments of Sweidiaur and others, and the experience generally of the profession, and especially of accurate modern surgeons and pathologists, have abundantly proved the futility and unsatisfactoriness of all these distinctions.

Our PROGNOSIS of the probable results of leucorrhea must be founded upon the several circumstances of its being simple or complicated ; of its being constitutional or the result of a local or specific cause of irritation ; of its being recent or long established ; and on the age and other circumstances of the patient. Uterine catarrhs when simple are seldom dangerous, and they are often supported for many years without serious inconvenience ; whereas when complicated by carunculous or other fungoid growths from the vagina, by uterine or vaginal polypi, by schirrosities and other incurable indurations of the glands at the neck of the uterus, by a carcinomated state of any part of that organ, by aphthous or other ulcerations of its internal surface, or by prolapsion, procidentia, inversion, or any other malposition of it, they are more rebellious or fatal according to the degree of untractableness or danger attaching to the several complications. A constitutional affection of this kind may not be incompatible with many enjoyments during life's passage, nor with a moderately long duration of it. The prognosis however even in this case is so far unfavourable, that being identified with a certain character of original organization, and also for the most part associated with feeble powers of digestion, it is seldom or never curable, nor even susceptible of much substantial and permanent relief. The same general remark applies to all cases of leucorrheal profluvia derived from a hereditary predisposition to them. The appearance of a leucorrheal defluxion from the genitals in consequence of the suppression of a habitual evacuation from other organs or surfaces, or when it occurs critically in acute diseases, may usually be considered as exceedingly favourable ; inasmuch as it seldom fails to become a protection against results which might possibly be attended with more danger. It should however be observed that when instituted vicariously it should not be hastily tampered with. In general however both it and the original disease might ultimately be expected to yield to judicious treatment. When the effect of local irritation, the cause being usually of a temporary nature the effect may be expected to cease as soon as the influence of that cause shall have permanently exhausted itself. When the consequence of child-bearing that event will very much depend upon the constitutional character of the individual, upon the size of the child, on any difficulties or injuries incurred during the birth, and on the amount, if any, of reduction of tone of the organs concerned in the function. When leucorrhea is the effect of derangement of the catamenia, the result will of course materially depend upon the issue of any treatment which may be adopted for the due establishment or restoration of the natural function. When the quantity of the discharge is moderate, it is of course less debilitating in its effects, and may be sustained with comparative impunity for a greater number of years. Recent cases of fluor albus are usually cured without much difficulty ; whereas those of long standing are more rebellious and almost always incurable. The latter are, moreover, besides being the cause of habitually delicate health, are often accompanied by an obstinate indisposition to conception. Hippocrat.

Aphorism. sect. iv. aph. 42. Cases of leucorrhea in young subjects, other circumstances being equal, are more tractable; whereas when the malady presents itself as an accompaniment of old age, it is never curable.

STATES OF PARTS RELATIVELY TO THE PATHOLOGY OF UTERINE AND VAGINAL CATARRHS.—In acute cases of leucorrhea the vagina, from the inflamed and swollen state of its parietes, usually sustains some diminution of capacity; whereas in cases of long standing it perhaps always acquires a considerable accession of amplitude. Morgagni de Sedib. Morb. Addend. Epist. 67. In some cases it has been so much inflamed in different parts as to present upon post-mortem examinations the actual appearance of gangrene. Blatin, p. 259, ex Literis Johannis de Muralto. In one case recorded by Blasius, Observ. Medic. Obs. 5, it is stated that the anterior or urethral portion of its parietes had acquired the enormous thickness of two inches. The presence of tumours of various kinds have already been noticed as occasional causes of vaginal leucorrhea. Pinel, Clinique interne de la Salpêtrière. Ulcerations of all varieties of extent, from the size of pin-heads to that of the entire length of its parietes, have been quoted as examples of the causes and concomitants of morbid discharges from the vagina. Blatin, Traité des Fleurs Blanches, p. 254. The neck of the uterus, in cases of morbid discharges from the genitals, in many cases no doubt not strictly and exclusively leucorrheal, have usually presented analogous states of disease to those of the vagina. The orifice of the uterus is found even in the simplest cases of uterine catarrh to be in a state of more than ordinary development. Its lips are also frequently felt to be unusually prominent and elongated. If inspected through a speculum they may sometimes be seen much swollen, turgid with red blood, and the seat of varicose enlargement of their veins. These facts ascertainable during life, have been amply confirmed by post-mortem examinations. Morgagni de Sedib. et Caus. Morb. Epist. 67. The entire cavity of the womb including the passage through its neck has been found gorged with such varieties of mucosities as have been seen during life to form the usual varieties of leucorrheal discharges. Blatin, Recueil d'Observations, Obs. 30 et 31. The size of the uterus is generally something larger during the presence of fluor albus than when perfectly free from every cause of irritation. By long continuance of the vascular turgescence incident to the presence of fluor albus, the minute and ultimate veins of the cavity of the body of the uterus, as has been already observed of those of the neck, become the subjects of varicose enlargements. Morgagn. de Sedib. et Caus. Morb. Epist. 47. Sometimes the womb has been found diverted from its natural position within the pelvis “On inspection of the body after death, the uterus and its appendages were found adherent to the neighbouring surfaces. In each ovary there was a hydatid full of fluid. The ovaries and Fallopian tubes were ulcerated and purulent. On passing an injection into the spermatic vessels, the injecting material penetrated into the uterus and

into the vagina by a slight compression of these parts. The uterus was of large volume, reddish on its internal surface, excoriated, ulcerated, containing pus, and a little inclined towards the left side of the pelvis." Blatin, *Recueil d'Observations*, Obs. 12. Within the cavity of the same organ, we encounter tumours of different sizes, and of all possible varieties of structure, all no doubt calculated to excite its glands and its fine villous-tissued vessels into morbid action. Fred. Hoffman, *System. Medicin. Ration.* tom. iii. p. 160. *Acta Natur. Curios.* tom. i. Append. 72. et tom. x. Obs. 100. Morgagni de Sedib. et Caus. Morb. Epist. 47. art. 14 et 27. Protuberant glandular bodies of very small size, small excrescences of a warty character, and even simple roughness of the internal surface of the uterus, have been known to produce severe leucorrheal discharges of many years' duration. Morgagni, Epist. 45. art. 21. Epist. 48. art. 38. Epist. 46. art. 16.

OF THE INDICATIONS OF TREATMENT TO BE OBSERVED FOR THE RELIEF OR CURE OF LEUCORRHEAL DISCHARGES.—Different varieties of morbid conditions of the organs concerned, productive severally of different discharges, must of course be expected to furnish different indications of treatment. The principal of such conditions are inflammation of the uterus, inflammation of the same organ complicated with a state of great relaxation of its tissue; malpositions; and the diverse morbid affections already enumerated, calculated to generate or to complicate the malady. 2nd, Analogous affections of the mucous membrane of the vagina.

Inflammation is seldom carried to any considerable degree of intensity, excepting in cases of ACUTE uterine catarrh. The acute forms of the disease, especially when the inflammation is very severe, requires free bleeding; the application of leeches to the vulva; and preferably, if permitted, to the orifice of the uterus itself; fomentations assiduously applied to the abdomen; semicupia; diluent and diuretic drinks; diaphoretics, consisting of camphor mixture and liquor ammoniacæ acetatis; strict repose in a horizontal position, and little or no food. In chronic inflammation of the uterus, the same means should be had recourse to, but with more moderation and circumspection. This form of the inflammatory action is apt to lapse into a state of atony exceedingly difficult to remedy. In cases of acute inflammation of the mucous tissue, we do not encounter a state of atony excepting in the fourth and last stage referred to in a former part of this article; whereas in some chronic cases the accompanying or subsequent relaxation is so considerable, as to demand the greatest attention of the medical attendant to repress and to subdue it. This part of the indication is to be attained by a timely suspension of all depleting and debilitating measures, by the use of mild tonics, and by the gradual and cautious adoption of such means as may seem calculated to improve the patient's health. Moderate exercise in the middle of the day, and in a dry open country, should be recommended as a regular and daily duty never if

possible to be neglected. When an acute leucorrhœa shall have completely assumed the character of a chronic affection, local remedies are to be had recourse to without delay. These should consist in the first instance of mildly stimulating injections, such as infusions of gentian, oak-bark, the misletoe, nut-galls, or of the more common aromatic herbs, as of rosemary, hyssop, mint, etc., and afterwards of chemical astringent solutions, as those of sulphat of alum, sulphat of copper, sulphat of zinc, acetate of lead, nitrate of silver, etc. The principal circumstances of precaution to be attended to during the use of these and other topical remedies are, first, their suitableness to the stage and form of the disease; but secondly and principally that the functions of the bowels, kidneys, and skin, shall not be interrupted nor even allowed to languish during the administration of them.

Concurrently with the use of local astringents and tonics, the internal exhibition of balsamic and terebinthinate medicines, including some of the principal gum resins, should be made available immediately on the retirement of the acute symptoms: for although we do not know the mode of operation of these remarkable agents, the fact on that account is not less certain that they are actually competent to exert no inconsiderable influence on some of the functions of the urinary and genital passages.

Some authors have strongly recommended the use of cretaceous and absorbent medicines in cases of chronic leucorrhœa complicated with constitutional delicacy and cachexia; and hence possibly in part the celebrity in those cases of the Bristol, Pyrmont, and Matlock waters. J. Storch, *Miscell. Medico-Phys. Wedel. Amœnitat. Mat. Medic. lib. ii. cap. 12.* Gasp. Kolichen, *Acta Medic. Haffen. vol. i. obs. 83.* Lanzon, *Miscell. Nat. Curios. decad. iii. an. 1, obs. 39.* When cretaceous substances have been administered in expensive and medicated forms, various tonics, such as wine, bark, and chalybeates, have usually been prescribed in combination with them; and when ladies are sent the subjects of delicate health to watering-places of great public resort, the reader will doubtless feel no difficulty in ascribing at least a great part of the advantage usually derived from such visits to their accompanying influences from change of air, scene, society, regimen; and frequently of personal habits and self-government in their most extensive signification.

An adequate consideration of the treatment of fluor albus must have a constant reference to its causes, and, in short, to all the elements of its pathological history. If supposed to depend upon original delicacy of constitution, means should be suggested to strengthen, if possible, the constitution, and to improve the tone of the general actions of the system. These objects may often be in a great measure attained by recommending for the patient a suitable change of circumstances as to pursuits, society, and mode of living; such as a change of residence from a crowded population, or a humid and insalubrious atmosphere, into a dry open country; a less succulent, and perhaps a less nutrient and a harder, system of diet; more personal exercise, or, if convenient, and deemed

necessary, some form of laborious occupation judiciously apportioned and regulated. Raulin, in his *Treatise on Fluor Albus*, tom. ii. p. 238, has reported the case of a very young subject of the disease, which may here be briefly noticed in illustration of the point of practice just described. "I was requested," observes that writer, "about eight months ago, to see a young lady who had for some time been the subject of a serous profluvium from the genitals, which had occasioned great anxiety to her friends. She was only ten years of age, and she was as delicate as she was beautiful. Her complexion was that of alabaster whiteness. She was too tall for her age. From the unusually pallid colour of her gums and palate I was led to suspect that her blood was not sufficiently dense as to its consistence, and that the fibres of her solids were too relaxed; and this suspicion was confirmed by the state of her pulse. Her extraordinary delicacy was not however hereditary; inasmuch as both her mother and her wet-nurse were possessed of vigorous constitutions. I founded my indication of cure on the conditions of the fluids and solids; which I conceived to be degenerating, and verging rapidly towards a state of relaxation. I accordingly advised a less succulent system of diet. Up to that period my young patient had been principally fed upon soups, milk, stewed pigeons, and other aliments little calculated to give proper consistence and firmness to animal fibres. I recommended the use of bread made with second flour, and that of articles of food made from leguminous and farinaceous vegetables. I also permitted the use of fresh eggs, and advised a weak orangeade for drink." M. Raulin prescribed for breakfast a soup made with cray-fish and several varieties of vegetables, as also a little rhubarb, forming altogether an assemblage of articles which would scarcely have suited an English palate. The young lady was moreover placed in a convent in the country, in order that she might be obliged to take regular and efficient exercise. To these measures were added the daily use of the flesh-brush. These remedial means were persisted in for nearly two months, and they speedily effected a reduction of the profluvium, and eventually caused it entirely to cease. The patient's constitution was greatly improved and fortified. We may presume that the earliness of the application of the remedies thus resorted to contributed in no small degree towards the attainment of the effect sought from the use of them. Of this case it is expressly stated that it had not originated from any hereditary predisposition. But the following example of the fluor albus reported by the same author, although indebted for its origin to a hereditary source, yielded to a similar treatment. "A young lady of eight years of age had been the subject of a leucorrheal profluvium for more than six months. She was thin in flesh, and she had already suffered from painful affections of the stomach. Her mother had had fluor albus when pregnant with this daughter, and even anteriorly to that gestation; and she reported that she still continued to be greatly annoyed and weakened by it. From this declaration I felt myself justified in the conclusion that I had to deal with a case of hereditary leucorrhea. But besides

this, the little patient had been always fed upon milk, soups, chickens, stewed pigeons, etc. She had also been made to drink wine from her cradle. She was scarcely two years of age when on alternate days she was allowed to take tea, coffee, and chocolate; these indulgences having been permitted, it was stated, on account of her extreme delicacy. For the same reason she was usually confined to the house, and never permitted to go beyond the precincts of the immediately adjoining premises." After informing himself of the above facts, M. Raulin announced his opinion to the patient's friends, that there was but one resource which could be made available for her restoration to health and strength; and that was two or three years' continuous residence in the country; where the waters should be good, the air salubrious and elastic, and the climate temperate, and where the young lady should be made to live in the same manner, and fed on the same food, with the countrymen of the district which might be chosen for the locality of her temporary domicile. At this most unexpected proposition the parents were not a little alarmed: nevertheless they yielded to a morally unavoidable necessity, and at once consented to make the required sacrifice to ensure the preservation of an only and much-cherished daughter. To carry the object into effect they took apartments in a farmer's house, which was situated on a mountainous eminence, surrounded by a fine open country, distantly enriched and beautified by the windings of streams of no inconsiderable magnitude. When the little invalid arrived at her new residence, she was placed under the more immediate care of a country governess, who had little or no knowledge of the pernicious luxuries of a town life. The food and drink which were exclusively directed to be furnished to her were, bread, farmers-porridge, their common legumes, some fruit, and plenty of delightful water from a perennial fountain that sprung from the foot of a neighbouring rock. To this regimen was added the obligation of taking regular exercise in the open air. That consisted of half an hour's walk in the adjoining fields before breakfast, and of another much longer walk before dinner. That meal was usually taken at noon. These exercises were strictly enjoined to be continued without interruption, excepting when the weather might be so untoward as to make it impracticable to leave the house. The medical treatment laid down by M. Raulin was equally simple with the above system of personal and dietetic management. On rising in the morning the young patient had to take some drops of balsam of Peru in a glass of infusion of Seville orange-peel. Once a week some grains of powdered rhubarb were added to her soup at dinner; and this was occasionally repeated, perhaps twice or even three times in the week, when the first or second dose proved insufficient to produce a soluble state of the bowels. All medicines were sometimes laid aside, in order that nature might not be accustomed to a necessity merely founded on habit. In about a year after the commencement of the above system of management, the little patient's strength was manifestly much improved. Her perspiratory function was also at this period

so much invigorated, that her skin was often found suffused with a gentle breathing moisture; which before was not the case. At about the same time the leucorrhœal profluvium began gradually to diminish, but almost insensibly in quantity. It however totally disappeared towards the end of the second year. Some time afterwards the young lady was removed into a convent, where she observed a regular but a less severe regimen. After the lapse of four years from the date of her removal to the conventual school, M. Raulin informed himself that she had never sustained any relapse of her fluor albus, that she had even repeatedly and regularly menstruated, and, in short, that she enjoyed the most perfect health. *Traité des Fleurs Blanches*, tom. ii. p. 234.

Among the most frequent causes of leucorrhœa, there are some which may be especially denominated sexual. Such are derangements of the menstrual functions; diverse unsalutary influences of the sexual passion on the constitution, whether from defective or excessive gratification of it, or whether depending on peculiar conformation of organs or on certain idiosyncrasies of functions; some local accompaniments and results of gestation; certain constitutional effects of the same function; effects of abortions on the genitals and on the general system; and, finally, certain occasional consequences of parturition and of the puerperal state.

Cases of fluor albus produced by derangements of the menstrual function may be expected to be cured by the establishment or restoration of the catamenia. The reader must therefore be here referred to the treatment of amenorrhœa and disordered menstruation generally, as submitted to his perusal in several preceding pages of the present work. Some further remedies adopted for the treatment of leucorrhœa in common with that of some forms of disordered menstruation will receive further notice in the sequel of the present article.

Amongst unsalutary influences of the sexual passion, one of the most important is that of disappointed or unprosperous love, which usually produces its morbid effects on the genital system reflectively, from certain depressing operations of the mind on the actions of the digestive organs. The assemblage of symptoms usually represented by the term chlorosis, and frequently accompanied by leucorrhœa, are accordingly amongst the earliest consequences of these gastric disturbances. An adequate system of treatment for these unhappy and complicated results will therefore require to be directed by several different indications. The wounded heart clinging to its object, and scarcely to be alienated by neglect or even by repulsion, the mind diseased and desolate, oppressed and distracted by its own silent and solitary misery, is an object almost exclusively of moral management. Next to the anxious soothings of parental affection, or of intimate private friendship, the principal remedy for this part of the case will be found in the sedative influence of time, aided by the natural elasticity and reaction of an originally sound and vigorous understanding. Special circumstances may occasionally furnish opportunity for the medical attendant to become a party even to this branch of the treatment; but

in general he will not be consulted until the moral affection shall have produced considerable physical disturbances. The physician's first cares, therefore, most frequently have for their object the treatment of the physical and properly medical part of the case, the re-adjustment and re-establishment of the unbalanced actions of the body. Among these he will probably recognise the disturbances of the gastric functions as the most prominent; and he will often encounter no little difficulty in the selection of his remedies. The choice of food will of course be one of the first duties which will devolve upon him. When the power of digestion is greatly impaired, nature usually reduces correspondingly her demand for food. In very many cases she likewise takes upon herself to dictate the choice of particular kinds and forms of aliment. The moderate quantity of food required, or proper to be taken on these occasions, should be palatable to the patient, nutritious, and easily digested. When an article of food combines these several properties, it is a matter of little importance what its name may be, or from what class of aliments it may have been obtained. As a general rule, weak stomachs should not be over-burdened either with frequent supplies or large masses of fluid foods. Broths and soups are rarely digested in such circumstances either soon or easily. Beef and mutton, in delicate slices from the middle of the joint, or in the form of chops or steaks, may always be recommended with safety, provided they are taken in moderate quantities and with relish. In the absence of appetite for butchers' meat, the more tender parts of poultry or game may sometimes be advantageously substituted; as may also some kinds of fish, as soles, smelts, whiting, trout, etc. All light and simple puddings are wholesome whenever they can be fancied, and pretty soon digested. Vegetables should be sparingly used. The best of them perhaps is a well-cooked mealy potato. In cases of acute leucorrhœa accompanied by severe pains, by a sense of fulness and tension in the hypogastrium, and by an excited state of the heart and arteries, the patient will seldom require much food, which should then consist of the lightest puddings, the jellies of arrow-root or sago, milk thickened with oatmeal or flour, panada, etc. On the retirement of the acute symptoms, carminative stomachics and tonics may importantly contribute to restore the enfeebled powers of digestion to their natural and healthy balance. With this class of medicines may often be most advantageously combined moderate doses of rhubarb. Rhubarb, in various combinations, was considered so important a medicine by Hoffman in all cases of feeble digestive powers, that he never neglected an opportunity of strongly recommending its use. Fred. Hoffmann. *Opera Omnia*, tom. iii. De Cachexia Uterina, cap. xvi. § 3. p. 351. After subduing the phlogosis incident to the first stage of the constitutional disease, it will generally be both safe and proper to attempt also the subduction of the local affection, by means of stimulants and astringents. The actions of the hepatic system, very liable to be retarded by the depressing influence of the moral part of the disease, must be sustained by small doses more or less frequently exhibited of blue-pill, and in some cases, at

more distant intervals, of Plummer's pill with the extracts of gentian and rhu-barb. A peculiar variety of gastrodynia, a distressingly painful aching of the stomach is not unfrequently an accompaniment of suspended menstruation and leucorrhea, when these latter symptoms are the effects or parts of the moral malady now describing. The author has observed with great satisfaction, that the essential oil of peppermint is an almost absolute specific for that affection. He thinks he has never known it fail to relieve it, whilst for an uncertain length of time, sometimes for weeks, and occasionally for months, he has repeatedly known it to effect its entire removal. Most writers have recommended travelling and change of scene, and sometimes of country, in the unhappy circumstances to which our present remarks are intended especially to apply. Whatever of innocent amusements can be made available towards sustaining the drooping spirits, or to beguile the tedious hour and to divert the mind from its private misery, should be thought of by the patient's friends, and presented to her attention with all practicable frequency, but at the same time with the utmost address and discretion. A new engagement of the heart's affections may, under certain circumstances, be occasionally within the reach and management of intimate and considerate friends. The faded charms of beauty have sometimes been surprisingly restored by such kindly acts of affection and friendship. To be successful, however, they will often require to be most delicately performed; and to be permanently happy in their results, they should always be based on good sense, and on the soundest principles of good morals. It has sometimes occurred, that parents have happily relented, and even at the eleventh hour consented to arrangements for the settlement of their daughters which they had previously obstinately rejected. The simple duty which in such cases could devolve on the medical attendant, would be to give his best advice honestly and confidentially on a broad consideration of all the circumstances. A young lady of great beauty and accomplishments, in the nineteenth year of her age, became the object of an ardent attachment on the part of a professional gentleman in extensive business who resided in the same town with her. The gentleman was not more than seven or eight years older than herself; and he possessed a handsome person and very elegant manners. He was moreover considered highly talented in his profession, and to have a fine taste for poetry and general literature. He was a member of the same profession with the lady's father, which was that of a solicitor. Both families were respectable, and were indeed equally respected by their friends and by the public. The proposed connexion was therefore ostensibly a very suitable one; and the attachment, as was afterwards proved, was mutual and equally ardent on both sides. But from some prejudices on the part of the young lady's mother the gentleman's first advances were received with coolness, and his ultimate proposals were rejected. Consequent on this issue, which had not been at all anticipated either by herself or by her lover, the young lady's health was suddenly interrupted; and she became the subject of suppressed menses and chlorosis, accompanied by symptoms of

great pulmonary irritation. She drooped indeed most rapidly, and at a no distant period would most assuredly have sunk into an untimely grave, had her father continued inflexible to his first resolve. But to the credit of that gentleman's judgment and good feeling he saw the approaching danger before it was absolutely too late to retrace his steps; and without hesitation, as also as it was reported without even the ceremony of a family consultation, he waited personally on his future son-in-law, and in the handsomest manner invited him to a renewal of former intimacies; expressed his most unfeigned regret that he had ever shown any disinclination to receive him into the family relationship which he sought, and concluded with the request that he would favour him with an early opportunity of introducing him to his daughter. In the course of about four months after this important interview the young people were happily married; for before that period the lady's health was not considered sufficiently recovered to warrant that consummation of their plighted love. Thus by a proper and manly revocation of a mistaken act of duty on the part of a yet affectionate parent, the life of a most accomplished young woman was preserved to be a consolation to the same parent in his old age; to be the richest possession of a husband, who nevertheless abounds with other treasures; and to have become the mother and instructress, which she now is, of one of the most interesting families in the county in which she resides.

It is the opinion of some physiologists that women of strong passions have been sometimes known to become subjects of leucorrhea attended with hysteria and other constitutional affections, for want of adequate exercise, or from the absence of all opportunity for the enjoyment of the sexual function. Of the absolute correctness of this opinion it is difficult to predicate with confidence; inasmuch as the symptoms thus attempted to be accounted for constantly present themselves under circumstances where the causes referred to cannot be supposed to exist. Of the tendency of excessive indulgence in venery to produce some of the effects in question, and especially leucorrhea, there is much less room to doubt. In either case, however, the remedies are to be derived more from moral than from medical sources. The restrictions which law and religion impose on the conduct of women in Christian communities, in respect to sexual indulgences, however inconvenient in particular cases, and such inconveniences are frequently occasioned by unsuitable marriages and other acts of selfishness and folly, are nevertheless exceedingly salutary in their general operation, even on the health of the sex itself. Consult a disquisition on the influence of the Christian religion on the moral principles and practices of its early professors. *Dict. des Sciences Medicales. Art. Libertinage, vol. xxviii. p. 134.* The medical and pharmaceutical remedies best suited to the cases of leucorrhea here referred to, will be found to consist principally in occasional abstractions of blood, sometimes from the arm, but more frequently by leeches from the genitals, a prudent exhibition of aperients, topical astringents, and sedatives, together with tepid and cold bathing, and the daily use of the bidet.

Leucorrhœa has sometimes been produced, as we have already seen, by the excitement of the first sexual congress. Cases of this kind, however, can seldom be expected to be reported to the medical attendant until after the lapse of several weeks subsequently to the commencement of the irritation. The remedy might have reference to the sexual conformation, or to some other attribute or circumstance appertaining to the husband. These points should be positively ascertained, before the wife is submitted to personal examination. The irritation here supposed is often the result of a more than ordinary contractedness of the orifice of the vagina. The difficulty then incident to the exercise of the sexual congress may be such as to excite the mucous glands, which enter very numerously into the constituent structure of that part, into a state of inflammatory irritation, in consequence of which they are thrown into morbidly excessive action; or in other words they become the source of a profuse leucorrhœal profluvium. Again, by reason of a more than ordinary brevity of the vagina, the glandular apparatus at the orifice of the uterus may become the seat and subject of much functional irritation in consequence of its exposure to inordinate pressure during the exercise of the coitus. The first of these cases must be treated by a frequent use of the warm hip-bath, by soothing fomentations to the genitals, by the occasional abstraction of blood, by leeches from the immediately adjoining surfaces, and by practising at least some abstinence as to the imputed means or cause of the irritation. In several obstinate cases of this description, which at different times have fallen within the cognizance of the author, he has observed that waxed sponge tents worn for an hour or two daily have been attended with excellent effects. In the other case, the treatment must obviously consist in a prudent forbearance from a too forcible application of the cause, and must of necessity be entrusted to the good sense and good feeling of the husband. Denman's Introduction to the Practice of Midwifery, chap. iii. sect. 2. Again, all the organs more immediately interested in leucorrhœal profluvia, although perfectly natural as to their conformation, may nevertheless become the sources of profuse discharges of that kind, in consequence of abuse of their functional attributes. Hence the constant liability of courtezans to all sorts of morbid discharges from the genital passages. In the treatment of fluor albus of married ladies when presumed to depend upon this cause, much skilful management will be required on the part of the practitioner, first to detect the fact of such a case, and then to procure a strict observance of the prophylactic and remedial measures to be pursued. It is manifest that the husband must here also be made an accessory, and in some respects indeed a principal, to the treatment to be adopted. The husband in fact is generally most chargeable with the blame attaching to excesses of this description; at all events the prophylactic part of the treatment must be entrusted to him alone. In the mean time a temporary separation may be advised as being more substantially calculated to ensure conformity to a restrictive precept such as we here suppose, than any oral or even written annunciation of it. The remedial

measures to be had recourse to will of course depend on the extent of the evil supposed to have been induced. If the discharge is presumed to have existed for a long time, to have been very profuse and debilitating, and the patient is supposed in consequence to be reduced to a state of extreme delicacy as to her general health, it is obvious that our indication of treatment must include all the means that may seem calculated to impart tone to all the more important functions of the system. Next to the actions of the genital organs themselves, those of the chylopoietic organs will generally be found most embarrassed and deranged. These, therefore, should be made the objects of our earliest attention. For the first week or two, the profluvium should only be treated by the most soothing tepid injections or lotions, as the particular case may indicate, consisting of herbaceous infusions or decoctions, as those of marsh-mallows, poppy heads, etc. and afterwards of such as may be expected to prove more tonic and astringent. Without incurring the charge of much unnecessary repetition, the author cannot here go into a detail of the whole treatment of cases of leucorrhea depending upon the particular cause now supposed, but which must be considered as identified with many others as to their effects upon the constitution.

Sexual profluvia of a simply leucorrheal character are sometimes, and under certain circumstances, exceedingly difficult to be distinguished from gonorrheal discharges; whereas, in all such cases, it is more or less important to establish the diagnosis, if practicable, on principles which might leave no possible doubt as to their proper origin. The author is anxious to urge this point strongly on his reader's attention, inasmuch as he has, in the course of his practice, encountered several unquestionable examples of gonorrhea, TREATED WITHOUT MERCURY, from which subsequently the system became tainted with the virus of constitutional syphilis. A case of this description is, indeed, at the present moment under his professional care. About three weeks ago Mrs. G. requested his advice for her infant, a puny-looking male child, six weeks old. The case was one of copper-coloured eruptions on the nates and genitals, and of large malignant ulcerations of the left foot, which extended to the heel and ankle of the same extremity. This child when born, to use the language of its mother, "was a very fine baby," and perfectly free from every appearance of cutaneous disease. It did not however thrive; but instead of increasing in strength and size, it daily became less vigorous and less healthy in its appearance; although the mother was in a situation to furnish it with an ample supply of good milk. Towards the end of the third week after its birth, the eruptions above described made their appearance rather suddenly. Of their proper nosological character there could not be the smallest room to doubt. The mother of course was not privy to the cause; nor, indeed, did she seem to have any the most distant suspicion of it. The author therefore immediately sought an interview with the father; to whom he made a full communication of his opinion as to the undoubted nature of the cause. That gentleman stated in reply, that he had been married about fifteen months, and that when he married he consi-

dered himself perfectly free from all possible taint of injury from any gaieties with women; that indeed he never had at any period been the subject of chancres nor of any kind of venereal ulcers nor of bubo; BUT THAT, ON MORE THAN ONE OCCASION, HE HAD BEEN AFFECTED WITH GONORRHEA, and that when he last had it, he had sustained very serious inconveniences from it. He concluded however his statement with a positive assurance, and he could be actuated by no rational motive to misrepresent the fact, that he had had no one symptom even of that complaint for upwards of two years before he married. The eruption on the infant has since yielded to the action of a third of a grain of calomel exhibited three times a day, and of five grains of blue pill given twice a day to the mother. The mother's mouth has been slightly affected, and the remedy in her case is being now suspended, again perhaps to be soon resumed; but in that of the infant it has been given without intermission, and will probably be continued for two or three weeks longer, to avoid the possibility of a relapse. In the mean time the child is amazingly improved both in health and looks. The father was recommended to apply to his surgeon, under whose care he is at present. Whilst writing out the above case, the author has just recollected that within the same period he has been consulted by his friend Mr. Lamb, of York-square, Regent's-park, for another case of constitutional syphilis derived exclusively from a gonorrheal source. The subject of the case is a young woman, who for some years was under the protection of an oldish gentleman of gay habits, who neglected and otherwise ill-treated her. For the last year and a half she has lived with her mother, a widow in middling circumstances, in a state of great retirement. According to the testimony of this person, she has never been affected by venereal ulcers nor buboes; nor since her retirement from under the above-mentioned protection, has she been the subject of any morbid discharges from her genitals, which however she acknowledges she had been on more than one occasion previously. Since she has lived with her mother she has enjoyed a pretty good state of health till within about three weeks ago, when a few small spots of a coppery coloured eruption began to appear about her face and neck. At present the whole surface of her body is covered with an immense crop of well-characterized venereal blotches. She has therefore already entered on a course of mercury under the immediate care of Mr. Lamb. The consequences of venereal excesses committed by avowed courtezans and other females of light character, do not come within the scope of the present work. For the treatment therefore of malignant gonorrhea and of some other forms of profluvia consequent upon venereal impurities, the author must refer his readers to the able works which have been written professedly on these subjects.

The leucorrhea which presents itself as a frequent result and accompaniment of gestation, is for the most part a symptomatic affection, often purely local in its influence and seldom protracted beyond the duration of its occasional cause. Pregnancy may be identified with a plethoric condition of the genital system.

During the earlier months of gestation the uterus, gradually increasing both in weight and volume, is apt to sink into a lower part of the pelvic cavity than it is usual for it to occupy during its unimpregnated state. A natural consequence of this descent must therefore be some amount of friction and pressure of that organ against the parietes of the vagina, and especially against those inferior portions of it which may be said to constitute the flooring of the pelvis. But the mucous apparatus of the vagina is a considerable constituent tissue of the inferior portion of the genital passage. It is accordingly the glandular part of the mucous membrane of that portion of the vagina which is especially the source of the leucorrhœal discharge which almost always attends the earlier months of pregnancy. At the period of quickening, the womb usually ascends from the cavity of the pelvis into that of the abdomen; wherefore at that stage of the gestation it is common for women to be much relieved of their fluor albus, as well as of other symptoms of local irritation, which from the influence of the mechanical cause just explained are seldom entirely absent during the earlier months. Again, during the latter months of gestation, the uterus, although elevated above the brim of the pelvis, undergoes so prodigious a development, and acquires such accession both of bulk and weight, the whole amount of its enlargement being indeed accessional to its ordinary condition at other times, that it can scarcely be expected it should not be productive of considerable inconvenience and disturbance to its immediately contiguous organs. Hence principally the teasing aches and pains which are referred to the back and loins, and to the parts about the brim of the pelvis generally; hence the frequent desire to void the contents of the bladder; and hence, no doubt, the profuse leucorrhœal profluvia, which scarcely ever fail to attend the latter weeks and months of gestation. Moreover, it may be stated as a known fact, that the vagina sustains a considerable extension of its length during the more advanced stages of pregnancy; a circumstance which very probably may have some effect in quickening the action of its exhalant vessels and glands. To these indisputable facts let there be added the consideration that the vaginal arteries are derived from the same great trunks from which are produced the important arteries which supply the uterus itself with blood. Now if one great system of branches from these common trunks is made to sustain an extraordinary development, which we know to be the case with the uterine arteries during gestation, it seems probable that its immediately adjoining branches, which are employed to supply blood to contiguous organs, cannot at the same time remain in their ordinary state of distention. It is indeed a matter of universal admission that they do not. By these several modes of explanation therefore we readily account for the profuse leucorrhœal discharges to which most women are liable during the latter months of their gestation.

From such a view of the causes of the profluvium under consideration, the reader will doubtless see good reason to infer the comparative unprofitableness of any system of treatment for it. Some slight mitigation of the discharge will

accordingly be all which the practitioner will usually find himself competent to accomplish. This limited relief of it will be occasionally obtained from the adoption of certain vigorous measures which may be found necessary for subduing other and more important symptoms. General bleeding may be mentioned as the principal of such measures. In cases of very painful hæmorrhoids we sometimes derive great advantage from the application of a good many leeches to the anus. A certain amount of relief is thus obtained to the over-distended vessels, not only of the rectum, but also of those of the neighbouring genitals. This same practice may indeed often be required to be extended to the more accessible parts of the genitals themselves. The reader, however, who has made himself acquainted with the foregoing portion of the present work, should be apprised that the author does not here intend to recommend the application of leeches to the ORIFICE of the uterus even when accessible, DURING ANY PART OF GESTATION. Under the circumstances now describing, the tepid bath, the tepid hip-bath, the frequent use of the bidet, and injections of tepid water into the vagina, will often most materially serve to promote the patient's comfort. The bowels should be kept constantly open by mildly aperient medicines and enemata. A reclining or a horizontal position, by diminishing the amount of pressure which the parts about the brim of the pelvis would otherwise have to sustain from the gravid uterus, might in many cases be made available towards greatly reducing the discharge as to QUANTITY. To effect its entire removal will be found almost in all cases perfectly impracticable.

The ordinary consummation of pregnancy may generally be expected to operate as a final and efficacious remedy of the fluor albus incident to that condition. Such indeed it very frequently proves to be under a proper management of the patient during the puerperal state. In some unfortunate cases, however, a leucorrhœa, which shall for the first time present itself during pregnancy, is observed to remain for ever afterwards, subject perhaps to some variations as to quantity. In a certain inconsiderable proportion of cases, this result may be deemed unavoidable. The inordinate distention of the uterus during gestation, by reason of the presence of a morbid quantity of liquor amnii, or of a plurality of foetal contents, or of some monstrous or diseased enlargement of the whole or of any part of the produce of conception, may have the effect of injuring the tone of that organ so completely and permanently that it may never subsequently be able to recover it. Again, the head of the child is sometimes so large relatively to the dimensions of the brim of the pelvis, that in consequence of the slow progress of the first stage of a difficult labour thence resulting, the orifice and neck of the uterus are exposed to the risk of being very seriously compressed and contused. But the intelligent reader is well aware that these important portions of the uterus are in point of fact the seat of one of the most extensive systems of muciparo-glandular tissues that are to be met with in any part of the female genitals. Need we therefore be much surprised, if after enduring the extreme compression and even dangerous contusion to which such

delicate tissues are thus exposed, that they should never afterwards recover a perfectly healthy condition, either of structure or of function? Add to the serious injuries thus sustained, the still greater evils which are sometimes inflicted by the rude hands or instruments of midwives and other undexterous practitioners. But it is not only the uterus that is liable to injuries of this description from difficult and dangerous births; for so in point of fact are likewise all the parietes of the parturient passage. All cases of tedious labours are indeed more or less liable to be followed by a disposition to fluor albus. It has been moreover observed, that unusually quick labours have not unfrequently been followed by a similar result. Quick labours suppose either very little resistance, or in other words a state of great relaxation of the soft parts, or an unusually vigorous action on the part of the parturient powers. In the former case we may easily infer a previous predisponency on the part of the organs concerned to diseased action of their glandular tissues upon the application of a slight cause; and in the latter, such powerful action of the expellent agents as might be supposed competent under any circumstances to overstrain the constituent tissues of the genital passages. But these are not the only causes of leucorrhœal discharges consequent upon parturition. We must add those of tedious recoveries during the puerperal state, by whatever causes produced. Suppose here the almost endless catalogue of errors and acts of indiscretion and mismanagement which are committed in the puerperal chamber, as also the influences of the important diseases, both local and constitutional, which women have to sustain during that eventful period, and our list of causes of leucorrhœa imputable to the EFFECTS OF PARTURITION AND ITS IMMEDIATE CONSEQUENCES will become a very numerous one indeed. Hence the fact that married women having families are much more frequently the subjects of fluor albus than single women of any age; and hence also the equally important fact that fluor albus is more frequently the result of pregnancy and its consequences than of all other causes put together. Of the correctness of this latter statement the author entertains not the smallest doubt. When incurable injuries of structures, or even of functions, are inflicted upon the organs which are the sources of the morbid profluvia here supposed, it is manifest that the effects must also prove irremediable. Hence the comparatively small number of women, after having sustained serious injuries of this kind, who ever perfectly recover from the effects of them. Hence consequently very strikingly the importance of an efficient system of prophylactic treatment. Although indeed no amount of foresight or discretion could be supposed equal to the prevention of all the evils incident to child-bearing, as to its influence on the subsequent health of women; nevertheless it cannot be a matter of doubt, that much substantial improvement might thus be introduced into the practical management of pregnancy and its consequences.

An opportunity will occur to us on a future occasion for considering the curative treatment of puerperal diseases. In the meantime the reader may be briefly apprised of the principal circumstances which, in reference to our

present subject, will then demand his best attention, viz. 1st. The condition of the uterus immediately after delivery, both as to structure and functions, including its position subsequently to the removal of the placenta. 2nd. The state of the vagina, and especially that of its orifice. 3rd. The constitutional state of the patient personally, as to her previous health, and also as to the more immediate effects of her sufferings or of other incidents during the labour. 4th. The amount of reaction, if any, consequent upon the events of the labour. 5th. The vigilance required to be exercised over the conduct of nurses and other attendants, and over the economy of the puerperal chamber generally. Here will be included the treatment of the patient as to diet, proper attentions to her comfort as to her bed and body linen, personal management generally, management of her functions, more especially those of the bladder and rectum, and superintendence of all her movements when required to change her position. 6th. State of the functions on the day after the delivery, and for the first week subsequently. 7th. Instructions as to the time when the patient should be permitted to leave her bed, and also as to the length of time during which she should sit up during the earlier days of her convalescence. 8th. Professional superintendence, more immediately including the important duty of a constant vigilance in respect to the accession of any of the diseases incident to the patient's condition, and the subduction, as soon as possible, of every nascent evil. 9th. Functional and structural state of the breasts and nipples during the whole period of the convalescence. 10th. State of the uterus relatively to the lochial discharge, to purulent or any other morbid discharge from it, whether imputable to injuries sustained during delivery, or to inflammatory actions of its tissues subsequent to that event. 11th. Diseased conditions of the vagina, or of its immediately adjoining organs. 12th. State of the circulation, whether of the system generally, or of particular parts of the body, indicative of the probable advent of corresponding diseases. Here will be included the requisite attention to certain predispositions to some of the more important diseases which we have to treat during the puerperal state, as those of breast abscesses, phlegmasia dolens, and puerperal insanity. All diseases of that period, when debilitating and long protracted, may be placed among the list of causes of subsequent leucorrheal discharges.

Abortions are productive of fluor albus, partly in consequence of the losses of blood which are sustained on such occasions, and partly in consequence of the tediousness of recoveries from them. In many cases of premature births, portions of the ovum are retained; and when so retained at early periods of gestation, they are only removeable by the expellent action of the uterus itself. Hence the retention may be protracted for many weeks. During the entire duration of such retentions it is obvious that much uterine irritation may be produced, accompanied by a profuse putrid discharge. In many cases of this description a permanent profluvium is thus established. As long as any of the remains of the placenta or other parts of the ovum are left in the uterus to be reduced by the

process of elimination here supposed, the discharge will continue of a darkish brown colour, and very offensive as to its character. The elimination having been completed, the discharge gradually assumes a lighter colour, so as eventually to present the appearance and to possess the other qualities of a common fluor albus. In a certain proportion of cases, the patient subsequently to this result is restored to perfect health, and ceases to be the subject of any profluvium at all. In others, however, especially such as are protracted to an extraordinary duration, the uterus never after completely recovers its tone; and the patient is left to sustain a protracted and incurable infirmity till the usual period of cessation of the menses, if not for the remainder of her life. To avoid as much as possible this unhappy result, the putrid portions of placenta, known or supposed to be retained, should be well syringed DAILY with a powerful instrument; which in all probability will have the effect of greatly hastening their removal, and so enable the uterus so much the sooner and more effectually to recover its tone. In other respects the leucorrhea consequent upon the action of this cause must be treated on ordinary principles.

Before we conclude the present article, the author thinks that it may serve an useful purpose to make a few practical remarks on the pretensions of two or three of the principal remedies, pharmaceutic or otherwise, which have been most strongly recommended by practical writers. At the head of such a list he may perhaps be permitted to place the celebrated PILLS OF STAHL, which about a century ago made all Germany, as well as other parts of Europe, resound with their praises. As many of the component parts of these famous pills continue to be prescribed for disordered menstruation by the practitioners of the present day, the following original formula may not be unacceptable to the reader:

R. Extracti cardui benedicti et fumarie, Gummi ammoniacæ in aceto scillitico soluti aa ʒi. Myrrhæ optimæ, Aloës succotrini aa ʒi. Gummi hederæ ʒss. ad ʒij. Croci pulverisati gr. xv. Misce ut fiat massa pilularum gr. iv.—v. singulariter continentium.

Of these pills fifteen grains were usually given for a dose. Of their presumed efficacy in the treatment of fluor albus, their original prescriber speaks in the following strong terms: "If," remarks Stahl, "I have at any time observed an effect truly deserving to be spoken of in the strongest terms of satisfaction, from the use of any medicine whatever, it certainly has been from the use of these pills in cases of leucorrhea." Colleg. Casuale Mag. obs. 19 et 68.

In cases of leucorrhea, accompanied by much cachexia and a dyspeptic state of the digestive organs, the MINERAL ACIDS have been represented as possessing considerable remedial power. The sulphuric acid, indeed, was strongly recommended in fluor albus, by R. Fonseca, upwards of two centuries ago. His formula consisted of from twelve to fifteen drops of sulphuric acid, diluted in four pounds of rose-water. Of this, an ounce was ordered to be taken every morning, sweetened with syrup. Consilia Medic. tom. i. consult. 21.

Weikard also exhibited sulphuric acid in cases of leucorrhea and chlorosis with similar success: *Obs. Medic.* p. 108, cas. 1, 2. The latter writer illustrates his principles by cases, of which the following brief sketches may serve as examples. "A lady already much emaciated and cachectic, who had been for some time the subject of a slow evening fever and of a leucorrhea which had come on as a sequel of hysteria, was seized with a putrid epidemic fever. After having employed aperient medicines, the sulphuric acid was administered with so much success that the fever and the leucorrhea speedily disappeared. The latter, however, reappeared some months afterwards; but the discharge was white, less acrid, and less abundant." "Another lady had a very profuse fluor albus, accompanied by an inconsiderable but constant discharge of a reddish colour. After the use for some length of time of a solution of sulphuric acid in water sweetened with sugar, to which was added a small quantity of elixir of vitriol, the patient's health was insensibly re-established, she became pregnant, and at the proper period presented her husband with a living pledge of her affection for him." Amongst the practitioners of this country sulphuric acid is not estimated as possessing any considerable restringent powers over the morbid secretions of the female genitals, and it is probable that it owes any efficacy which it may possess in this respect to its tonic effects on the stomach, or generally on the constitution.

Some French writers have strongly recommended the use of the BUSH-BASIL, *ocymum basilicum silvestre*, as a powerful remedy for the morbid discharges of the sex. "A woman, aged twenty-four, had for four years been troubled with a profuse leucorrhea, which had supervened on a derangement of the catamenia. The fluor albus had been so profuse that she was often obliged to change her linen in the course of the day. The discharge was of a greenish hue, inodorous and of a purulent consistence. After the use of diluents, aperients, tonics, and ultimately of astringents, which were prescribed by M. Bajon, with little or no effect, the patient determined to spend some days at the house of Captain du Chassy, who had a great reputation for his knowledge of country medicines. There she was treated with the expressed juice of the bush-basil. The efficacy of the ocymum is probably to be attributed to the stimulant influence of its essential oil, which is slightly bitter and aromatic, its fragrance being similar to that of the oil of lemons, on the functions of the digestive organs." See a communication on this subject by M. Bajon, *Journal de Médecine*, tom. xxxix.

The powdered leaves of the UVA URSI, Bear's whortle-berry, are another vegetable product which has sometimes been exhibited in more than one variety of sexual profluvia. It has indeed been often administered even by English practitioners as a remedy for diseases of the urinary passages. Its successful use in these cases has led to its administration in analogous affections of the genital passages. "A young lady, aged six years, of a pale sickly complexion, much extenuated and very dyspeptic, became the subject of a profuse profluvium from the vagina. The discharge was exceedingly

irregular as to its colour, sometimes green, at other times of a yellowish white, and at other times of a reddish brown colour, and very foetid. Besides a very profuse discharge of a red fluid, which had lasted more than a week, she had been inconvenienced by some other troublesome symptoms, such as extreme debility, loss of appetite, disturbed sleep, and a sort of nervous tremblings. She was moreover in a very cachectic state. After opening her bowels freely with some purgative pills once exhibited, she was put upon the use of the powdered leaves of *uva ursi*, of which she took half a dram every three days, and in all six doses. Notwithstanding the comparative smallness of the quantity of the remedy which was thus taken, it is quite astonishing what effects were produced by it; for in a very short time afterwards the uterine fluor ceased and the appetite returned." Murray, *Libellus de arbuto uva ursi*. The author has had several opportunities of observing that the powder of the leaves of *uva ursi* administered in doses of from half a dram to a dram, two or three times a day, has had the effect of greatly reducing the quantity of leucorrheal discharges. He submits the following as an example of the sort of cases for which he has been in the habit of prescribing the *uva ursi*. A young lady, aged eighteen, of a somewhat delicate constitution, had been for several years the subject of difficult menstruation, accompanied by a profuse leucorrheal profluvium. In consequence of taking an unusually long walk, which greatly heated and fatigued her, she was seized the same evening with a pain of considerable severity in the region of the bladder, and difficulty in voiding her urine. These symptoms were probably much exasperated by the frequent and violent efforts which she made to relieve herself. Little or no mitigation of the severity of these pains was obtained from the use of hot fomentations, which the mother very properly caused to be applied to the hypogastrium and external genitals. Some small quantities of water were voided in the course of the night; but the relief had been trifling, and the patient had no sleep. At an early hour in the morning the author received a message from the family, requesting his attendance with as little delay as possible. The pain of the bladder remained unmitigated, and that organ was considerably distended with urine. The fact was, that the patient, in consequence of being accompanied in her walk of the day before by some friends, had not been able to respond to her natural calls so frequently as those demands had been urged upon her. In the morning therefore her distress was become intolerable. The accompanying symptoms were an excited pulse, a dry skin, tension and heat of the abdomen, a whitish tongue, an intense head-ach, and an expression of countenance denoting great anguish. No time was lost in emptying the contents of the bladder with the catheter; but the relief from that operation was much less considerable than what the author had anticipated from it. The quantity of urine abstracted was very nearly three pounds. The bearing-down pains still continued, and were at intervals of eight or ten minutes greatly exasperated, so as very much in that respect to resemble those of parturition.

There was at this time a frequency as well as hardness and volume of pulse, which indicated bleeding; and accordingly instructions were left for the abstraction of eighteen ounces of blood from the arm as soon as possible, and for the application immediately afterwards of eighteen or twenty leeches to the pubis and vulva. A prescription was also written for six drams of castor oil, to be given as soon as sent, for a pill with five grains of calomel and two of opium to be exhibited immediately after the first action of the bowels from the oil, and for a mixture consisting of equal quantities, two ounces each, of camphor mixture, liquor ammoniæ acetatis, and peppermint-water, with the addition of half a dram of the tincture of opium. This mixture was directed to be taken in ounce doses every four hours. Little or no urine was voided in the course of the day; but very little was indeed secreted, inasmuch as late on the same evening only a trifling intumescence could be felt in the region of the bladder. During the evening visit, however, there was observed to be a considerable mitigation of the pain of the bladder; although the patient did not altogether escape occasional and pretty severe attacks of it.

Contemporaneously with the above extraordinary attack of ischuria the patient was the subject of a most profuse fluor albus, accompanied, as the mother represented, with intense heat and redness of the orifices of the urethra and vagina, and, in short, of all the surfaces of the external genitals within the pudendum. On every occasion of introducing the catheter, the necessity for which recurred every two or three days for about three weeks subsequently to the commencement of the indisposition, the patient complained of severe pain when the instrument was about to pass through the vesical orifice of the urethra.

During the author's attendance on this case several active remedies were resorted to, especially during the first ten days; such as twice general bleeding, three times local bleeding with leeches, fomentations, the hip warm-bath many times repeated, several varieties of soothing and cooling lotions to the genital surfaces, aperients, mercurials, opiates, hyoscyamus, gummy and oleaginous medicines, etc. For the first fortnight however of the treatment, the patient's distress was only mitigated; the principal symptom continuing to be occasionally very urgent, so as even sometimes to require the use of the catheter. It then occurred to the author to try the effects of the uva ursi, of which accordingly the powder was prescribed in half-dram doses, and taken four times a day with an equal quantity of the compound powder of tragacanth. At the commencement of this change in the practice, the leucorrhœal discharge was so profuse as to require the constant wearing of napkins. After however the uva ursi had been taken about three days the patient no longer required the assistance of the catheter, and she began to be much less frequently harassed with her deeply-aching and bearing-down pains. From this time forward she likewise improved daily in health and looks. After taking the same remedy for about a month, she only sustained a short paroxysm of her complaint once or twice in the course of twenty-four hours. In six weeks she considered herself quite well. But she

continued the use of her great remedy, at her own request, for several weeks afterwards. Her next subsequent menstruation was performed with much less pain, in ampler quantity, and otherwise more satisfactorily, than it had ever been before.

The circumstance most pertinent and interesting to our present subject remains still to be noticed, viz. that the fluor albus, an essential attendant probably of the previous dysmenorrhea, never again returned. Such was the confidence of this young lady in the power of her favourite powders, that in consequence of experiencing a few twinges of pain of the bladder, the result as she believed of an accident by which she got her feet wet about six months after her complete recovery from the above attack of eystalgia, she was induced to send for repeated packets of them, and took of them a single powder four times a day for an entire month, without thinking it necessary to trouble her physician or even own friends with an intimation of what she had done.

The author thinks that he has met with several other cases of irritation about the neck of the bladder, accompanied by fluor albus, of which the symptoms as to both diseases yielded to the action of the uva ursi almost as strikingly as in the case of his fair patient just described. He feels it however his duty to be cautious as to positive assertions when he has to refer to the operations of particular remedies; inasmuch as it seldom happens that any medicinal agents are ever so exclusively employed as not to be preceded or accompanied by the employment of other agents actually if not equally powerful.

The *CICUTA*, *conium maculatum*, furnishes an example of another article in the materia medica, which has attained considerable celebrity for its efficacy in cases of female profluvia. This powerful narcotic was especially introduced to the notice of modern practitioners by the Baron Storck, of Vienna, who published, in 1769, an interesting and an eloquent tract professedly written to recommend its use in many very intractable diseases. Amongst others he recommended it strongly in cases of morbid profluvia from the female genitals. Storck, it is now pretty generally understood, was a great theorist, and it has been somewhat plausibly supposed that he could exert a considerable power of management over his facts in order to make them square with his theoretical principles. Accordingly his descriptions of the astonishing results which he professed to have obtained from the use of the *cicuta*, especially in cases of schirrous and carcinomatous diseases, have generally had the credit in this country of having been exceedingly overcharged. Without being supposed to admit that genuine cancer has ever been cured by any preparation of *cicuta* in any country, the author may be permitted to suggest, that the great discrepancy of opinion which has existed in respect to the actual amount of efficacy possessed by the *cicuta* for the subduction and cure of any diseases, may probably have depended upon the comparative inferiority of the article as it was commonly used in this country, up to a very recent period, when its different preparations were taken up and importantly improved by Mr. Battley.

After this remark, it would seem no more than an act of justice to sketch an abridgment or two, of some of the cases originally published by the celebrated German physician, in illustration of the efficacy of the cicuta as a remedy for leucorrhœal profluvia.

A woman of forty years of age had been the subject of a troublesome fluor albus for nearly fifteen years. She had made trials of all sorts of remedies for it, without experiencing any substantial relief. Her menses had moreover been suppressed for eleven years. Storck directed an injection of the cicuta with honey of roses and milk to be passed into the vagina, and the exhibition internally of half a dram daily of the extract of cicuta, together with some decoction of the same plant mixed with milk. THE PATIENT WAS CURED IN ELEVEN WEEKS. Storck, *Libell. de Cicuta*, cap. 2, observ. 14.

Another woman, aged fifty-two, experienced for a long time a gnawing pain in the uterus, during which period she had been the subject of a leucorrhœal discharge so malignant and so corrosive, that not only the genital surfaces were excoriated by it, but that even the patient's linen, which it speedily charged, was caused to become rotten by it. The fœtor of it was so intolerable, that nobody could bear to approach the patient. After having spent all her fortune on various medicines without being benefited, she had recourse to Baron Storck; who advised her to take whey for part of her diet, and to foment the genital surfaces with an infusion of cicuta with the addition of a certain proportion of milk and a small quantity of honey of roses. As she felt great heat in the region of the uterus, and could not sleep at night, Storck prescribed for her a sedative draught to be taken every evening immediately before she went to bed. Consequent upon these measures her sleep and appetite were in a great measure re-established. The extract of cicuta was then exhibited. The use of whey was also advised, and the night draughts were ordered to be continued. In forty days the pains were so much mitigated, that the paregoric became unnecessary. The fœtor and acrimony of the discharge were at the same time very greatly reduced; but there supervened a retention of urine. The use of the cicuta was then suspended for several days. The urinary organs were again set at liberty, and there followed from the vulva an acrid ichorous discharge which greatly relieved the patient: but her pains returned, and it became again necessary to resume the use of the cicuta, which was accordingly ordered to be taken in the quantity of twenty grains of the extract daily. The pains were relieved, and the material of the discharge assumed a mucous character, and was at this time seldom offensive as to its odour. Nevertheless, in about three weeks subsequently to the attainment of these results, the strangury returned, and caused interruptions of the use of the cicuta on several different occasions. In about six months, however, the patient was restored to perfect health.

Another patient of Storck's, forty-two years of age, had been the subject of a most troublesome leucorrhœa for seven years, from suppression of the catamenia. At the commencement of her indisposition, the discharge had been in small

quantity, mucous in its consistence, and of a whitish hue, and the accompanying symptoms were such as to have been tolerated without much impatience or complaint. In the progress of the malady, however, they became exceedingly distressing and severe, so as eventually to overwhelm the poor woman with hopelessness and despair. In a state of great marasmus and cachexia, she at length sought and obtained admission to the public hospital at Vienna. Storck for some time employed the common remedies usually resorted to in such cases, and at the same time recommended attention to the patient's diet. But no obviously beneficial results following, he ordered the exhibition of the extract of cicuta, and a fomentation to the vagina of a decoction of marsh-mallows and cicuta. In the course of a few days, a most striking improvement was manifested in the principal features of the case. The pains were observed to be less poignant and intense, the febrile excitement more moderate, the sleep less disturbed, the perspirations less profuse, and the fœtor of the discharge less intolerable. On the eighteenth day from her admission the patient took twenty-four grains of the extract of cicuta. Her symptoms continued to improve. The pains were however still so severe, as to make it necessary to have recourse to opiates. On the thirtieth day the pains became intense, and were accompanied by a burning fever, which had the effect of greatly exasperating the previous state of weakness of the patient. The use of the cicuta was therefore for a time suspended; and other medicines and measures, principally antifebrile, were substituted.

During the presence of this fever the morbid discharge from the genitals was suspended, and a distressing disuria supervened, accompanied by chills and tremblings, and other symptoms, which portended some important change in the character of the malady. On the fourth day of the fever the patient sank into a state of great debility; which was especially manifested by her frequent changes of countenance, both as to its complexion and temperature. Towards the evening of the same day, after a violent shivering and a slight fainting fit, attended by a cold, clammy perspiration, the discharge from the genitals re-appeared, and was observed to be streaked with blood. It was, moreover, intolerably fœtid. A mortal gangrene was now apprehended. In the course, however, of about half an hour afterwards, a great quantity of purulent matter made its escape from the vagina, which was followed by a manifest relief of all the symptoms; and the patient enjoyed some excellent sleep during the night. In the morning she was obviously much better. Her countenance was even cheerful, her pulse was more natural, and the discharge from the genitals reduced in quantity. From this time forwards the uterine pains became more and more mitigated; and the purulent character of the discharge from the genitals ceased in about eight days. The use of the cicuta was then resumed. The patient recovered rapidly, and in about three weeks she was declared cured of all complaints. She eventually quite lost all appearance of cachexy, and became equally stout and strong. The dis-

charge from the uterus ceased altogether, the functions of the bladder and urinary passages recovered their natural freedom, the appetite was re-established, and, in short, the cure was perfect and permanent. Such is an abstract of a very elaborate case of leucorrhea published by the German baron, in illustration of the strongly sanative effects of the cicuta in that disease. The English reader will perhaps feel some doubt as to the legitimacy of the inference, which it was obviously intended should be drawn from the premises which the narrative purports to furnish. From a deliberate estimate of all the facts of the case, one of the most obvious inductions is, that the uterine abscess which furnished the profuse purulent discharge only about a month antecedently to the perfect recovery of the patient, was a critical event in its history. From the date of that event, there is no concealing the fact, that the patient's health immediately began to improve. Indeed, it does not appear, that after the events of the night, WHEN THE MORTAL GANGRENE WAS APPREHENDED, were well over, the patient had a single serious symptom to complain of. Was the cicuta the cause of the critical abscess? If we suppose that it was, then is cicuta an agent possessing a very dangerous power; and if it was not the cause of the abscess, then it seems fair to infer that it was not the remedial power which cured the disease.

Among the great number of cases given by Storck in recommendation of cicuta, as a powerful remedy for many diseases incident to the weaker sex, the following may seem really calculated, at least to a considerable extent, to sustain his views. A young lady, eighteen years of age, had for three years been the subject of an extreme induration of the breasts. She was, at the same time, pale, slow in her movements, and cachectic. She moreover had never menstruated. She had palpitation of the heart and great oppression of her breathing, whenever she attempted to take the least exercise. Her breasts were variegated with livid striæ, and she frequently complained of lancinating pains in them. The axillary and inguinal glands were also indurated and swollen. Storck ordered for the patient nine pills of the extract of cicuta, consisting of two grains each, to be taken in three doses daily; and an infusion of balm and elder-flowers for drink. He had recourse to the use of no local application. On the fifth day after the commencement of this treatment no change could be observed to have taken place in the symptoms. He then ordered four pills to be taken. On the eighth day the livid striæ on the breasts had disappeared. The lancinating pains in the bosom were much more frequent; but the patient's strength was manifestly improving. On the tenth day fifteen pills were directed to be taken daily. On the twelfth day there flowed from the vagina an abundant quantity of a white viscid fluid. After this the breasts became softer, the respiration freer, and the palpitations less frequent. The same number of pills was continued till the twenty-fourth day of the treatment. In the meantime all things went on well. The pains greatly diminished, the breasts became moveable, the face, which was before pallid and sickly, began to exhibit some ap-

pearance of colour. All the functions were performed with improved vigour and animation. There was, however, a daily discharge of mucus from the genitals, which sometimes was acrid and irritating, and accompanied by a sense of heat in the region of the pelvis, but which at other times occasioned no inconvenience. The dose was then increased to eighteen pills a day. On the thirtieth day the breasts had acquired their natural softness, and the axillary glands were considerably reduced in volume. The patient, in short, lost all her pains; consequently she was generally gay and cheerful. The uterine flux was also neither so frequent nor so abundant. Nevertheless, it was considered best not to reduce the dose of the cicuta; and the compound infusion of balm and elder-flowers was directed to be continued. On the fiftieth day there was no induration at all to be felt in the breasts. But at the axilla there were still some pyriform tubercles. The uterine profluvium insensibly disappeared, and the appetite was re-established. For about three weeks subsequently to this date the patient took moderate doses of the cicuta, with an infusion of rhubarb. At this time an eruption of the menses took place without being accompanied with pain, and the flow continued for five days. The patient no longer complained either of difficulty of breathing nor of palpitation of the heart. In the mean time her general health was very good. No further treatment was considered necessary. Libell. ij. De cicutâ, cap. 2, obs. 16.

A lady, whose age is not stated, was for a long time tormented with a fluor albus, which she found very irritating and noisome. There was great induration of the abdomen; and her vagina was so obstructed with schirrous tubercles, that she could not admit the introduction even of a small canule into it without experiencing the most acute pain. The patient was put upon the use of the extract of cicuta, and directed to have an injection passed up into the vagina, two or three times a day, made with a weak infusion of the same plant. The uterine pains were speedily mitigated. The material of the discharge was also likewise rendered less acrimonious, and ceased altogether to be offensive. At length the schirrous tumours disappeared, as also did all remains of the leucorrhœa. The patient was cured through the sole agency and efficacy of the cicuta. Ant. Storck, Libell. De colchic. autumn. rad. p. 76.

Storck quotes the case of a woman, aged thirty-three, who had had a leucorrhœa for upwards of ten years, and who was subject to a discharge of the same character, it being similarly viscid and foetid, from the rectum. There was also a scirrhus induration of the structure of the latter part, which was occasionally attended with so much pain that the patient was obliged to keep her bed for many days together; where however she could not sleep even with the assistance of ample doses of opium. The matter of the discharge was so offensive and putrifying, that it rapidly destroyed the texture of the patient's linen. All the ordinary remedies having been abandoned in despair, she was induced to make trial of the cicuta. She accordingly took the extract of cicuta for about four months, and in the course of that period WAS CURED BY THAT REMEDY ALONE,

Her strength, her sleep, and her appetite, were re-established. The induration about the anus gradually yielded to the action of the cicuta, as likewise did the discharge, of which the rectum was the source. All pains ceased. The bowels, which previously had been constipated, recovered their natural freedom, without requiring the use either of injections or purgatives. The catamenia became quite regular, and the leucorrhea entirely ceased.

Quarin was consulted in a case of leucorrhea, in a person of forty-two years of age, which tormented its subject for six years antecedently to her last confinement. The matter of the discharge was very acrimonious and fœtid; and it produced distressing excoriations of the genital surfaces. The best remedies which were had recourse to, under the direction of the most eminent practitioners, failed of success. Quarin prescribed cicuta pills, and advised lotions to the vulva and vagina, made with the decoctions of cicuta and agrimony. The patient was also ordered to be purged four times with senna. By these means she was perfectly cured in nineteen weeks. Libell. De Cicuta, cap. 2. obs. 13.

Polzerus speaks of a woman of forty-two, who had for a long time been the subject of leucorrhea, accompanied by a frequent accession of hysteric symptoms. There was also a tumour to be felt in the situation of one of the ovaries. She was perfectly cured in about six weeks by a preparation of aconite, and by an infusion of cicuta taken with a quantity of milk. At the same time a cicuta plaster was applied to the hypogastrium immediately over the spot where the ovarian tumour was to be felt. Libell. quo Storckii continuant. experiment. cap. 8.

Krapf attended a woman who had been tormented with fluor albus for many years, and who had often been much distressed by excoriations of the labia pudendi. The orifice of the uterus was exquisitely sensible; and during the moment of performing the duty of examination per vaginam, a hard and largish tumour could be readily felt to occupy the space subsisting between the neck of the uterus and the pubis. For the space of four months the vagina was daily fumigated, by means of a suitable instrument, with vapour from a decoction of cicuta. At the same time the extract of cicuta in proper doses was prescribed for internal use. At the end of the four months already referred to, the patient was perfectly cured; when, moreover, no trace of the vaginal tumour could be felt. Libell. jamjam citat. p. 243.

From some remarks which have been made in a preceding part of the present work on the efficacy of MERCURIAL MEDICINES as remedies for some forms of disordered menstruation, the reader will not be surprised that the same class of medicines should be expected to furnish an equally powerful agent for the subduction of other forms of morbid action of the same important organs. It forms no part of the object of this work to investigate the modes of operation of medicines: whereas indeed such investigations are seldom at any time very satisfactory. We know that mercurial medicines produce wonderful changes in the

functional conditions of the human body, whilst indeed few examples can be produced even of incipiently structural diseases, over which it can be truly asserted that it has no remedial power. Of the correctness of this statement, the wards of our public hospitals abound with the most ample and convincing evidence. The utility of mercury as a remedy for some forms of leucorrhœal profluvia is therefore at present scarcely so much an assumption of theory deduced from analogy or other premises merely hypothetical, as it is an established result of observation and experience. Under the influence of this general impression, the author has for many years been in the habit of exhibiting mercurial preparations under certain restrictions as a remedy for some of the most important varieties of fluor albus: and he thinks he can speak with great confidence of the utility of this practice, 1st, in cases of leucorrhœa occasioned or accompanied by obstructions of the catamenial function; 2d, in cases, from whatever cause, complicated with chronic embarrassments of the chylopoietic functions; 3d, in those of gross and plethoric subjects, addicted at once to habits of indolence and to excessive personal indulgences; 4th, in cases accompanied by an acute inflammatory state, and by ulcerations of the genital surfaces; and lastly, and not unfrequently, in cases which he has found to resist the more common and even all other remedies. In combination with the internal administration of this great remedy, he has often derived the greatest advantage from the use of the black wash as an injection into the vagina. To effect the important changes required from the use of mercury in obstinate cases of fluor albus, it is necessary it should be exhibited in sufficient quantities to produce a perceptible affection of the gums, together with a moderate pytalism. See cases under a foregoing article, p. 322—325. The principal objection to this practice is its painfulness, or rather perhaps the permanent injury which it is calculated to inflict upon the gums and lining membranes of the sockets of the teeth. Hence the necessity of the utmost attention to its proper management. The influence of the remedy, subject of course to the precautions here supposed, should be sustained in the system during a period at least of fourteen or fifteen weeks. The author could refer to results in his own practice for many very striking examples of the efficacy of mercury as a remedy for fluor albus in several of its most obstinate and desperate forms. But this article is already protracted to a length which nothing but the great importance of the subject can justify. Moreover, the treatment by mercury is by no means a new practice. On the contrary, it would not be difficult to prove that at one time it was a very common practice to exhibit mercury in cases of leucorrhœal profluvia of the simplest kind. Some of the writers of the period alluded to went even so far as to maintain that the disorder in question could seldom be perfectly cured without the use of mercury. "It is not essentially important," observes an eminent author of an early part of the last century, "to distinguish between the French fluor, as it presents itself in women, and that which is not French; since, as is also the case in similar

affections of the other sex, the fluor, although it be not virulent, can seldom be cured, excepting by the remedies which are necessary for the cure of the French disease." After some observations on the pathology of fluor albus, the learned writer then proceeds as follows to prescribe his principal remedies:— "Ergo taliter affecta post purgationem ter quaterve repetitam, (si hysterica fuerit, bis purgasse suffecerit,) assumat hora somni, sub forma boli, gum guaiac. pulv. ʒi. Mercur. dulc. gr. viij. Mell. q. s. vel syr. cariophyllor. Alternis etiam noctibus assumat, ejus loco, bolum sequentem. R. Mercur. dulc. ʒss. Conserv. salv. ʒij. M. Post bolum vesperi sumptum sumat mane pilul. ecphract. Edinburg. vel extract. catholic ʒij. Nam tales non facile purgantur. Cum non purgatur assumatur terebinthina, vel in bolis, vel cocta in pilulis." Arch. Pitcairn. opera omnia, lib. ii. cap. 27. § 2, 5. p. 178. Lugdun. Batav. 1737. When fluor albus prevailed epidemically at Breslaw, we are informed by Blatin that it was successfully treated by mercury. *Traité des Flueurs blanches*, p. 224. It has often been asserted by writers on this subject, that Heister depended upon, or at least frequently exhibited mercury, for the cure of simple leucorrhea. *De morb. muliebr.* lib. ii. cap. 9. The author has a strong impression, however, that this statement is not correct to the extent generally supposed. In Heister's celebrated book of cases, there is only one example of the use of mercury in leucorrhea; and the mercurius dulcis, the favourite form of the remedy at that period, was then administered expressly as a purgative, without any view whatever to its specific effects. *Medical, Chirurgical, and Anatomical Cases*, observ. cxlii. p. 221, translated into English by Geo. Wirgman. Lond. 1755. In all cases involving suspicion as to the source of the discharge being venereal, it would be professionally criminal not to have recourse to this great remedy in the first instance. 2. In cases of much asthenia and marasmus, mercury could be only exhibited with the utmost caution, and in the gentlest manner as an alterative. 3. In cases complicated with much nervousness, or depression of spirits, it should be only exhibited as a cholagogue in small doses, and in its mildest forms, in combination with tonics and bitters. 4. When properly indicated as a direct remedy for the leucorrhœal profluvium, it should be exhibited as already intimated in sufficient quantity to affect the gums; and that affection should be just enough to be perceived and to be accompanied with a slight ptyalism, and should be sustained for about three months. 5. In full and gross habits, the exhibition of mercury might require to be preceded by repeated bleedings, both general and topical. 6. In almost all cases, circumstances will probably arise to require the contemporaneous use of other remedies, as aperients, diuretics, diaphoretics, tonics, vaginal injections, the hip-bath, judicious exercise, change of residence, discreet moral treatment, etc.

OF THE USE OF CANTHARIDES AS A REMEDY FOR FLUOR ALBUS.—For the introduction of cantharides as a remedy for leucorrhea and other diseased states of the female genitals, we are principally indebted, as has been already

observed in a foregoing page, to the late Dr. John Robertson of Edinburgh. Since that gentleman published his "Practical Treatise on the Powers of Cantharides when used internally," in 1806, the author has had numerous opportunities of satisfying himself of the general correctness of his facts, and even of extending the application of his remedy beyond the precise limits of its administration as first proposed by him. The cases of leucorrhœa best adapted for the use of cantharides, are those of a chronic character, and such as have originated or become complicated with disordered states of the menstrual function. Dr. J. Robertson, in the work just alluded to, published ten very interesting cases, selected from amongst the results of his own practice, and from those of two or three of his professional friends, in illustration of the use of cantharides in fluor albus. The following may be quoted as a pretty good sample of the greater number of them. It is given at length, in order to convey to the reader some idea of the peculiar kind of tentative and experimental management of it which the remedy recommended especially imposes.

"Miss L. T., aged twenty, of delicate habit, pale, feeble and emaciated, complains of all the symptoms of a far-advanced leucorrhœa of nearly four years' continuance. Her menstruation observes the regular period, but is unusually copious and distressing; and at this time in particular she is subject to attacks of hysteria. Influenced by that false delicacy peculiar to her sex, she long concealed her situation from any medical man; but at length she was prevailed on to allow a statement of her case to be submitted to the judgment of a near relation of her own, practising in London. He ordered the loins every morning to be bathed in cold water, holding salt in solution. This practice for some time seemed beneficial; but on its being intermitted, or neglected in the least, the malady always recurred with much aggravation: wherefore she ceased to employ it; and the disease having imperceptibly undermined her constitution, there was considerable apprehension for her safety. She at last consented to adopt any plan of medical treatment that might be proposed, as the means of recovery. In this case Dr. Gregory, Professor of the Practice of Physic in this University, was consulted, who deemed this a very fair opportunity for trying the power of cantharides, which I had informed him I found a very effectual remedy in similar instances. Accordingly, on the 30th of November 1805, we prescribed the following mixture. "R. Tincturæ cantharidis ʒij. Aquæ puræ ʒvj. M. One tablespoonful was ordered to be taken three times a day.

"December 3. Mixture repeated, with three drams of the tincture of cantharides. This evening she feels considerable irritation in the uterus, etc.; discharge thicker, whiter, and in increased quantity. The changes which have occurred seem to alarm her, and she is unwilling to persevere in the use of the medicine. R. Sulphat. Zinci ʒss. Aquæ puræ ʒvij. M. ut fiat injectio. Dec. 4. Had not used, nor would she use, the injection. Discharge somewhat diminished. Dec. 5. Still convalescent. Cantharides continued in much smaller doses, but still sufficient to keep up the inflammatory irritation. Dec. 6. Discharge less than

ever. Dr. Gregory prescribed an ounce of the compound powder of alum, of which half a dram was ordered to be taken three times a day in water. Dec. 8. Cure uninterruptedly progressive. Medicines continued in doses somewhat increased. Dec. 10. Discharge diminishing. Medicines ordered to be continued. Irritation much more irksome during the night than the day. Dec. 11. Discharge and irritation as formerly. Medicines repeated and ordered to be continued. The young lady being backward to answer the questions put to her concerning her complaint, we received our information from an elder sister; on which account I am afraid the reports are not so substantially correct as one could wish. Return of the menses expected three days ago not yet come on. No additional uneasy symptoms. Dec. 12. Discharge, etc. for the last two days nearly stationary. Dec. 13. Return of the menses, cantharides omitted. Dec. 18. The menstrual flux, which for about three years had at each return been exceedingly copious, and was the cause of such distress as to confine the young lady to her bed for several days, has ceased to-day. During this period it has been much less copious, and she has been almost entirely free from the pains which formerly distressed her. Cantharides recommended as above: leucorrhœal discharge not nearly so great as formerly, but more copious than immediately before the return of the menses. On the day after the return, the irritation from the cantharides ceased; and during this term, the leucorrhœal discharge, when unmixed with that of menstruation, was not puriform but limpid.

“Dec. 19. Pain not returned. Matter becoming more opaque and more copious. Cantharides ordered to be continued. Dec. 25. Inflammatory irritation very troublesome. Discharge, which has been gradually thickening since the 19th, now very gross. The patient says that the quantity is greater to-day than ever it was in the same space of time, even before she took the medicine, and complains of a sense of uneasiness which pervades all the body. Cantharides ordered to be continued in small doses, merely to maintain in some degree the inflammatory action.

“Jan. 1, 1806. No change since the 25th ultimo till to-day. This morning she felt a pain in the kidneys; and towards mid-day very great pain in the urinary organs, particularly when voiding the urine, which however passed without impediment, and in the usual quantity. Cantharides ordered to be intermitted. *R. Supertartrat. Potassæ* ʒi. Of which one half was desired to be taken at once, and the remainder in three hours afterwards. Evening visit. The first portion of the powder sat easy on the stomach; but the second was ejected by vomiting as soon as it was swallowed. Catharsis immediately succeeded to the vomiting. Much sickness and pain in the forehead. The pains above mentioned not much alleviated. Cloths soaked in warm water to be applied over the pubes. Jan. 2. Morning. Slept little till towards morning: pain of the hypogastric region much diminished: headache and sickness gone. Cantharides still to be intermitted. Evening visit. Pain almost completely removed. Discharge rapidly diminishing in quantity during the last two days.

Jan. 3. Pain of the urinary organs scarcely perceptible, and the discharge almost entirely gone. Coughing excites considerable pain in the uterus. One teaspoonful of the cantharides mixture ordered to be taken four times a day, till slight pain be felt in the parts. Jan. 4. No pain. Discharge as yesterday in quantity; but instead of being transparent, as it has been for a day or two, it is opaque and puriform. Jan. 5. Discharge as above. No pain within the last twenty-four hours, although nearly half an ounce of the tincture has been taken in the mean time. Pain not excited in the hypogastric region by coughing. R. Tincturæ cantharidum, ʒi. Aquæ puræ, ʒxij. To be taken in the course of to-day and to-morrow. Jan. 6. Feels a certain titillation, but not pain, in the uterus and the vagina. The tincture of cantharides to be continued. Jan. 7. Accession of much pain last night; which, however, is altogether gone this morning. Discharge much diminished since yesterday, and somewhat puriform. Tincture of cantharides ordered to be continued. Jan. 8. No appearance of discharge to-day, except on rising in the morning, when it was very slight. The discharge has always been most copious on getting out of bed in the morning. Jan. 9 and 10. Discharge still perceptible. Pain reproduced to-day for the first time since the seventh: the patient having taken in the interim about six drams of the tincture daily. The tincture of cantharides ordered to be taken as before till evening, and in an increased dose at bed-time. Jan. 11. Not a vestige of discharge since yesterday. The flow of the menses yesterday afternoon in as great a quantity, and attended with as much pain, as formerly. Very great pain during the night. The tincture of cantharides to be intermitted. Jan. 15. Menses ceased to flow last night. Leucorrhœal discharge similar to what it was on the day before the return of the menstrual period. Use of the cantharides to be resumed as formerly directed, and continued till pain again supervene. Jan. 16. Pain of the uterus extending along the vagina. No strangury. Cantharides to be continued in diminished doses. Discharge as above. Jan. 17. Discharge entirely gone. Medicines to be continued. Jan. 18. Fatigued herself yesterday. Reappearance of discharge this morning, presenting a puriform character. No pain since yesterday afternoon. Doses of the tincture of cantharides to be somewhat increased till return of pain. Jan. 19. Pain last night seized the hypogastric region and kidneys. No strangury. Half an ounce of the supertartrate of potass to be taken immediately. Jan. 25. Relief from the supertartrate of potass in an hour or two, without however being attended by any alvine evacuation. No discharge. Sickness during the night. Tinct. of cantharides ordered to be continued with wine, beef-tea, etc. Eight o'clock p.m. Two drams of the tincture of cantharides taken during the day. No pain, no sickness, no discharge. Jan. 26 and 27. No discharge. The tincture of cantharides to be continued. Jan. 28. Sickness during the night, with great inclination to vomit. Squeamish during the last two days, attributed by the patient to having neglected to take her wine. No discharge. Use of wine, porter, etc. to be resumed. Tinct. of cantharides to be resumed

in small doses. Jan. 29. No sickness, pain, nor discharge. Regimen as formerly directed. Jan. 30. Morning visit. Much feebleness. Wine ordered to be taken. Evening. More medicine taken than was prescribed. The pains troublesome in the afternoon. 31st. Much increase of the pains till midnight, when they abated, and gradually went off. No discharge. Tincture of cantharides to be discontinued. Generous regimen recommended.

“August 1. This young lady had no return of the discharge, and soon recovered completely; but in about two months subsequently to the results just noted, she had an attack of inflammation in the throat, with a typhoid fever, accompanied with hysteria: from all of which she is completely recovered, and has had no return of the leucorrhœa.

“Miss M. T., aged 22, the sister of the lady whose case has been just related, of similar habit and delicacy, laboured under leucorrhœa, which had continued above five years; but which had not made such havoc in her constitution as in that of her sister. Perceiving that her sister continued well and was regaining her former healthy appearance, she was induced to try the same treatment, which she accordingly began on the 10th of January 1806, and her cure was completed by the 1st of February following,” i. e. it would seem probable from the context by the 1st of February in the following year. “The history and daily reports of this case and treatment resemble so much those of her sister in every material circumstance, that a full detail would be superfluous.”

From the perusal of Dr. Robertson's cases, and from the results of his own experience of the same remedy in many similar cases, the author feels himself justified in submitting to the consideration of the less experienced part of his readers the following practical inferences:—1. Preparations of cantharides have an undoubted remedial power, proving eventually perfectly curative, over many varieties of leucorrhœal profluvia. 2. They sometimes exert their remedial influence without producing strangury or any other visceral disturbances. In general, however, they are chargeable with producing those inconveniences to a very great degree. The author has met with repeated instances of timid women who never could be induced to resume the use of the remedy after having once experienced the intolerable sufferings occasioned by it. 3. In most cases the pains thus produced are of very temporary duration, and admit in the meantime of being greatly mitigated by the free use of emulsions and mucilaginous drinks, by the assiduous application of fomentations to the hypogastrium and external genitals, and by the exhibition once or twice repeated of opiate enemata. 4. The most convenient form of the remedy is that of the tincture, and best mode of measuring it into doses, is by drops. The quantity usually prescribed by the author during the first few days of its exhibition is twenty drops in a demulcent draught three or four times a day. He has then gradually increased the dose to thirty and forty, and in some few cases to fifty drops, until it has occasioned a slight tingling and irritation of the parts within and in the neighbourhood of the pelvis. Its exhibition has then been temporarily suspended,

or the quantity exhibited has been greatly reduced. 5. In a small proportion of cases the disease has yielded to the action of the remedy in the course of five or six weeks; in the majority however the cure has not been accomplished in less time than in the same number of months. In a few it has exceeded a twelvemonth. Taking the average of Dr. Robertson's ten cases, we find the time occupied by the treatment to have been about four months and a half. 6. It is not proposed in this article to represent cantharides as an unfailing remedy in all cases of female profluvia; it being well known to the reader that many of them depend upon incurable diseases of structure. Amongst the most obstinate cases not presumed to be thus produced are such as are found complicated with hysteria. Even these, however, have often eventually yielded to the action of cantharides. 7. In general the recovery has been rapid or tedious as the malady has been of shorter or longer duration before the commencement of the treatment. 8. In cases much complicated with depression of spirits and other nervous accompaniments, supposed to depend on a cachectic state of the general health without any ascertainable disease of structure, the author would strongly recommend a trial of the treatment by cantharides to be made in preference, at least in the first instance, to the exhibition of mercury. 9. "It is a valuable fact, that not only the general symptoms of leucorrhea are removed, but that in a great number of cases, the tone and functions of the uterine system are greatly restored by the use of cantharides." 10. The administration of cantharides is as safe during menstruation as at other times. 11. The best local applications to be used as injections into the vagina, are solutions of acetat of lead and sulphat of alum, solutions of the sulphats of zinc and alum in combination as recommended by Dr. Addison, solution of nitrate of silver in the proportion of from two to eight grains of the salt to an ounce of water; and in all cases known to be complicated with an ulcerated state of the internal genitals, the black wash. Boneti. Sepulchretum. lib. iii. serm. 31. observ. 6. Allen. Dissert. de fluore albo benigno. Jenæ 1739. Juncker. Dissert. de fluore albo titulo et ortu benigno, etc. Halæ 1752. Morgagni. De sedib. et caus. morb. epist. xlvii. art. 12, 14, 16, 17, 18, 19, 27. Trnka de Krzowiz. Hist. Leucorrhææ. Vindobon. 1781. Zimmermann. Dissert. de fluore alb. Goetting. 1788. Blatin. des fleurs blanches. Paris 1810. Charleton. Inquisit. medico-physic. de caus. catamenior. et uteri rheumatism. Doussin-Dubreuil. Traité des glaires et de la gonorrhée bénigne. Raulin Traité des fleurs blanches. Pineau. De notis virginittatis. Probl. 3. Cockson. Comment. Medic. No. iv. p. 88. Miscellan. Nat. Curios. cap. 9. et 10. Append. observ. 27. Hebd. 8. Musitan. De morb. muliebr. lib. ii. et iii. Fernel. et Roderic. a castro. Mercat. De communib. mulier. affectib. cap. 15. Plater, De aquosis excretis, lib. ii. cap. 7. Fred. Hoffmann. De cachexia uteri. Böhmer. Observat. anatom. in utero humano. Dominic. Panarol. Observat. Medicin. observ. 13. Forest. De morb. muliebr. lib. xxviii. observ. 20. Baillou, lib. i. consult. 56. Sylvius de la Bõe. Prax. Medic. lib. iii. cap. 4. Mahon. Mémoires de la Société Medic.

d'Emulat. tom. iii. Ramel. Journ. de Med. tom. lxiv. Pison. De morb. Brazil. cap. xvii. Stahl. Colleg. casual. magn. p. 695. Swediaur. on Syphilis. Blennorrhagia in women, vol. i. p. 183. 191. Pomme. Traité des affect. vaporeus, p. 425. R. a Fonseca. Consult. Medic. tom. i. consult. 21. Medic. and Surgic. Journal. Edinb. vol. vii. p. 176. Journ. de Médecine, etc. vol. xix. p. 260. vol. xxxiv. p. 347. Recueil Periodique, vol. xiv. p. 77. Journal Générale de Méd. etc. tom. xxxi. p. 378. Mémoires de la Soc. Méd. d'Emulation, tom. ii. p. 1. Transactions of Coll. of Physicians, London. vol. v. p. 23. Ephem. Germanic. Decad. i. an. 3. observ. 25. Dec. ii. an. 6. p. 281. Dec. ii. an. 7. p. 170. Dec. iii. an. 2. p. 129. Dec. iii. an. 5 et 6. p. 52. Acta Medica. Th. Barth. vol. i. p. 167. Duncan's Medic. Comment. vol. vii. p. 364.

OF THE IRRITABLE UTERUS—HYSTERALGIA.—This is a painful affection of the uterus, supposed to exist independently of any actual inflammation or other disorganization of its tissue. The descriptive epithet here assumed to represent the assemblage of symptoms about to be enumerated as constituent attributes of the disease, was first given to them by the late Dr. Gooch. Before the publication of his essay, they were usually classed under the heads of painful menstruation, uterine irritation, or of chronic inflammation, according to their functional complications, and to their effects upon the circulation and upon the general health, and possibly also according to the opinions of practitioners in given cases of their identity with or ultimate tendency to produce disorganization of the uterine tissues. To do justice to the pretensions of Dr. Gooch's essay in its attempt to furnish a new view of this disease, as consisting exclusively in a functionally morbid condition of the uterus, the author feels it his duty to avail himself of that writer's own graphic and spirited description of it. "The disease which I have ventured to call the irritable uterus, is a painful and tender state of this organ, neither attended by nor tending to produce change in its structure. It is now between fifteen and twenty years since I began to notice this disease; and since then I have seen several cases every year. At first it puzzled me much: I had not seen it described in books. I took it for chronic inflammation, which would end in disorganization probably of a malignant kind; but experience, while it taught me that it was a very intractable disease, taught me also that it was not a disorganizing one. I became familiar with its obstinacy and less apprehensive about its result, for I know cases which have lasted upwards of ten years, in which the structure of the uterus is as unaltered now as it was in the beginning of the disease, as far at least as can be determined by examination during life. Although I find it still an intractable disease, and wish I had a shorter and surer mode of cure to communicate, yet I think it worth describing, that practitioners may recognise it when they meet with it; that they may know what to expect in obstinacy, and what they need not apprehend in the result." . . . "A patient who is suffering from the irritable uterus complains of pain in the lowest part of the abdomen, along the brim of the

pelvis, and often also in the loins. The pain is worse when she is up and taking exercise, and less when she is at rest in the horizontal posture. In this respect it resembles prolapsus uteri; but there is this difference, that in the latter, if the patient lies down, she soon becomes quite easy; but in the complaint of which I am speaking, the recumbent posture although it diminishes does not remove the pain. It is always present in some degree, and severe paroxysms often occur, although the patient shall have been recumbent for a long time. If the uterus is examined, it is found to be exquisitely tender; the finger can be introduced into the vagina, and pressed against its sides without causing uneasiness; but as soon as it reaches and is pressed against the uterus, it gives exquisite pain. This tenderness, however, varies at different times according to the degree of pain which shall have been latterly experienced. The neck and body of the uterus feel slightly swollen; but this condition also exists in different degrees, sometimes sufficiently manifest, sometimes scarcely or not at all perceptible. Excepting however this tenderness, and occasionally this swelling or rather tension, the uterus feels perfectly natural in structure: there is no evidence of scirrhus in the neck; the orifice is not mis-shapen, its edges are not indurated. The patient finding her pain greatly increased by rising and walking, soon learns to relieve herself by lying on the sofa, and at length spends nearly her whole time there. Notwithstanding this precaution, there is always a considerable degree of uneasiness; but this frequently increases to severe pain. These paroxysms generally come on either a few days before menstruation, or (as is the case in many instances) a few days afterwards. If the paroxysm is properly treated, it subsides in a few days to the ordinary and more moderate uneasiness. Whilst this uneasiness is felt in the substance of the uterus, the general circulation is but a little disturbed. The pulse is soft, and not much quicker than is natural; but it is easily quickened by the slightest emotion. In a few instances, however, there has been a greater and more permanent excitement of the general circulation: the degree in which the health has been reduced has been different in different cases. A patient who was originally delicate, who has suffered long and has used much depleting treatment, has been, as might reasonably be expected, the most reduced. She has grown thin, pale, weak, and nervous: menstruation often continues regular, but sometimes diminishes or ceases altogether. The functions of the stomach and bowels are not more interrupted than might be expected from the loss of air and exercise. The appetite is not good, and the bowels require aperients; yet nothing more surely occasions a paroxysm of pain than an active purgative. Such are the leading symptoms of this distressing complaint. To embody them in one view, let the reader fancy to himself a young or middle-aged woman, somewhat reduced in health and flesh, almost living on her sofa for months, or even years, from a constant pain in the uterus, which renders her unable to sit up and take exercise; the uterus on examination unchanged in structure, but

exquisitely tender; even in the recumbent posture always in pain, but subject to great aggravations more or less frequently."

The causes to which this disease has been attributed, and after the application of which it has occurred, are generally considerable bodily exertions, at times when the uterus is in a susceptible state. "In one patient," observes Dr. Gooch, "it came on after an enormous walk during a menstrual period; in another, it was occasioned by the patient's going a shooting with her husband not many days after an abortion; in a third, it came on after standing for several hours many successive nights at concerts and parties; in a fourth, it originated in a journey in a rough carriage over the paved roads of France; in a fifth, it was attributed either to cold or to an astringent lotion, by which a profuse lochial discharge was suddenly stopped, followed by intense pain in the uterus; in a sixth, it occurred soon after, and apparently in consequence of matrimony. Although, however, the disease followed, and was apparently excited by these several causes of irritation, yet the patients had previously manifested signs of predisposition to it: they were all sensitive in body and mind: many of them had been previously subject to the ordinary form of painful menstruation. The disease seemed to consist in a state of the uterus similar to that of painful menstruation, only permanent instead of occasional.

"Long-continued pain in an organ so liable to malignant diseases as the uterus is, invariably leads to the apprehension of disease of structure, to ascertain which repeated examinations generally take place; but nothing is discovered excepting exquisite tenderness and slight swelling or rather tension. THE DISEASE DOES NOT TERMINATE in change of structure. The fact also that many of these cases, after having lasted for years, end in complete recovery, is a sufficient proof that it is a disease only of function. Few such diseases, however, yield so slowly to remedies. Even in those which end in complete recovery, there are often long intervals in which the progress towards amendment is most unsatisfactory and dispiriting." After some further descriptive account of symptoms essential to the malady, the ingenious writer pauses and asks, "What is the nature of the disease?" "It is not," he answers, "acute inflammation, for that would run a far shorter course, and end in certain known consequences. It is not chronic inflammation, for that is a disorganizing process, and slowly but surely alters the structure of the organ in which it goes on. Both in chronic inflammation and in the disease which I am describing, there is a morbid state of the nerves, indicated by pain, and sometimes at least a morbid state of the blood vessels, indicated by their fulness; but the substances effused by chronic inflammation show that in this there is something additional in the actions, and consequently in the state of fulness of the vessels. The disease which I am describing resembles a state which other organs are subject to, and which in them is denominated irritation." This point is illustrated by references to a description of an irritable tumour of the breast by Sir Astley Cooper, and to a similar

state of the joints as described by Mr. Brodie. "These painful states of the breast and of the joints appear to be similar to that which I have been describing in the uterus, similar in the kinds of constitution which they attack; similar in pain; in exquisite tenderness; in resemblance to the commencement of organic disease, and in proving ultimately to be only diseases of function."

This plausible theory of an exquisitely painful disease, without the co-existence of inflammatory action of the affected organ, must at best, in the present state of our knowledge, be considered doubtful as to its correctness. It is not even certain that we are yet acquainted with all the possible forms of inflammation, so as to be competent to assert broadly and emphatically that this or that variety of inflammation should have a natural and necessary tendency to end in disorganization of structure. It is not easy to conceive of certain forms of rheumatologic affections, for example, such as lumbago and sciatica, without connecting with them the idea of an inflammatory condition of the tissues principally concerned; and yet on that account, who ever supposes that such inflammatory actions have a natural and necessary tendency to end in malignant disorganization of structure? If muscular fibres be a constituent tissue of the uterus, why might not such fibres become the subjects of a painful inflammatory affection, a truly rheumatologic affection, without being followed, any more than in the other case, by a malignant disorganization of structure? It is well known that the uterus is not unfrequently the subject of very painful states, occasioned exclusively by functional causes, as we see constantly exemplified in cases of disordered menstruation, leucorrhea, etc.; but does it necessarily follow that such morbid conditions are essentially independent of all inflammatory action? Or rather, is it not demonstrable that of some of them, at all events, inflammatory action is an essential attribute? And yet we find that such painful states, such demonstrably inflammatory affections, may be sustained for many years without producing malignant disorganization of structure. The limits subsisting between the phenomena respectively of irritation and inflammation, are not yet established with sufficient precision to enable us to determine with perfect confidence under which of these heads some doubtful forms of disease should be classed. Many diseases, loosely attributed to irritation alone, are often characterized by symptoms which a more accurate diagnosis would enable us at once to ascribe to actual inflammation. In the description of the irritable uterus as above quoted, we encounter several symptoms which are known to be constant accompaniments of inflammatory action. All the occasional causes of the disease, as enumerated by Dr. Gooch, as well as the greater number of its essential symptoms, would seem to lead to the supposition of a proximate state of parts, if not actually inflammatory, at least one of no inconsiderable vascular congestion; for in addition to a morbid state of the nerves of the affected organ, which is not disputed, there is also unquestionably a morbid over-distension of its blood vessels during the presence of this disease: and this is, after all, the point of greatest importance practically to attend to,

inasmuch as it bears immediately on the principal feature of the treatment to be adopted. The designation given by Dr. Gooch of "the irritable uterus" to the distressing malady which he has here so admirably described, is therefore so far objectionable, as it leaves out of view one of its original, and perhaps its very principal constituent, *viz.* A PAINFUL OVER-PLENITUDE OF A PART AT LEAST OF THE INTERNAL ILIAC AND PUDIC SYSTEMS OF BLOOD VESSELS. Such a condition of the blood vessels in question is more or less an obvious result of the occasional causes by which the disease is represented as being most frequently produced. It is promoted and exasperated by whatever exertions or other causes which may be supposed calculated to increase the over-distension of the uterine vessels. The author recollects the case of a painful affection of the right foot, which was incurred by a gentleman some eighteen years ago by over-exertion in walking. At first the pain was considerable, and greatly interfered with the gentleman's pursuits; which required much personal activity. It was subject, like that of the irritable uterus, to occasional abatement, according to the degree of rest which could be afforded to the affected limb, and to more or less exacerbation, according to its exposure, which, indeed, was unavoidable, to more or less of walking exercise. It was, however, at no time so severe as to render walking totally impracticable. For this reason the case was almost entirely neglected in the beginning. It consequently became a chronic affection, which, although it gradually abated of its original violence, has never altogether ceased to occasion inconvenience. Now the reader will easily recognise something of analogy between the occasional causes respectively of the irritable uterus and of the lamed foot. If the painful effects be not of a nature to be identified with a state of inflammation in the one case, it would of course be quite proper to dispute its existence in the other. On the other hand, an over-extension of tissue in the one case might be expected to produce a similar result as to proximate effect to what is known to take place in the other. In the foot case a state of exhausted power was followed successively by an over-extension of fibres and a slow sub-acute inflammation of the injured tissues. Of the fact of the latter result, the author has most abundant reason to be quite certain. But why admit such results in the one case, and deny or totally overlook them in the other? Of the foot case the proper treatment undoubtedly would have been the application of a suitable number of leeches to the part, and the immersion of it for an hour or two afterwards in hot water, or the assiduous application for an equal length of time of hot fomentations to the surface, followed up by a repetition of the same practice on the next, or on an early day, subsequently; giving also to the limb the benefit of two or three weeks' most perfect rest. But it may be very well asked, whether the idea of exclusive irritation could be supposed so directly to lead to the proper practice in such a case, as that of inflammation, or of that even of congestion of the vessels of the part consequent upon the application of the previous injury. The author thinks not. For the same reason, he therefore thinks that the new designation of Dr. Gooch, as applied

to the morbid condition of the uterus, which in many respects he has most faithfully described, may have the effect of leading practitioners to an inert and procrastinating practice. About two years ago a case occurred within the cognizance of the author, very well suited to illustrate the tendency of a name to impose upon a weak mind, in an affair precisely of the kind, or rather in the instance of the very disease which we are now describing. Mrs. S., of B. Crescent, a very delicate lady, of about thirty years of age, and the mother of a numerous young family, had been the subject of much uterine irritation for about eight months, for the relief of which nothing very efficient had been done by her ordinary medical attendant. The husband, without giving any intimation to that gentleman of his intention, requested the present reporter of the case to pay his lady a professional visit, and to favour him with his opinion of the nature of her malady, and of its probable issue. The neck of the uterus was found exceedingly painful and considerably swollen; but without structural disorganization. The patient was greatly attenuated, and very pale and spiritless. The case was reported as one of no urgent danger, but nevertheless one involving some ultimate risk, if the present symptoms, which were represented as those of a peculiar variety of inflammation, could not be subdued. On being requested to see the patient again, he suggested the propriety of his being met by the family medical attendant. But that person was unappeasably offended at the husband for requesting another opinion without previously consulting him and without his consent, and declined all further attendance on the case. In a short time, however, afterwards, upon learning the author's opinion, he took great pains to represent it as being totally unfounded; adding, that if it should be acted upon, the practice would soon prove fatal to the unhappy patient. The neck of the uterus, it has been already stated, was considerably swollen. With the aid of a speculum, it was seen to be also in a state of intense superficial inflammation. All its vaginal portion was of a vividly red colour, similar to that of external genital surfaces when become the seat of a recent gonorrheal affection. A quantity of viscid mucus was seen distilling from the uterine orifice. Little intimidated by the angry oracular prognostics of his predecessor, the author hesitated not to order four leeches to be forthwith applied to the orifice of the uterus. This duty was performed by the very intelligent midwife of the Maternity Charity, whose useful services in this respect he has already had occasion to notice. He was induced to limit the number of leeches to four, in consequence of observing how intensely the vaginal part of the organ was charged with blood. The quantity of blood obtained amounted to at least ten ounces, and the abstraction of it was almost immediately followed by the happiest results. After an attendance of about three months, during which the application of between four and six leeches were repeated four or five times, the author on retiring had the pleasure of leaving his fair patient in a state of much comparative comfort, of almost total freedom from the distressing pain of the uterus which had recently embittered

her existence, and in other respects rapidly recovering her former health and strength. There was in this case very probably the irritability of the uterus, which had been represented by the family attendant as the patient's peculiar malady, but which had been in no degree mitigated by the soothing and strengthening medicines exhibited by him for its relief; but there was also most unquestionably much positive inflammation of the vaginal portion of that organ, the removal of which, by the depleting measures already described, made way for the eventual subduction also of the accompanying irritability. In the case of "THE IRRITABLE UTERUS," there is a period of recency and comparative acuteness of symptoms as certainly as there is in those of the irritable tumour of the breast, and of painful affections of knee and ankle-joints from over-extension of their ligaments; and there is little doubt but early and efficient vascular depletion would be quite as beneficial in all cases of the former, as they would probably prove in either of those of the latter. But would the hypothesis of a mere irritableness of the part in any one of these cases directly lead to such a practice? Again, the author thinks not. He accordingly finds local bleeding placed by Dr. Gooch under his second head of remedial measures; whereas the supposition of an over-fulness of the vascular system of the affected organ would naturally point to the relief of such a state AS A FIRST MEASURE. But if the disease be one of irritation and not of inflammation, nor of any condition of the parts allied to that of inflammation, why bleed at all? Because probably the utility of the practice had been fully ascertained by experience before the theory of the irritable uterus had presented itself to the mind of its talented propounder.

From the drift of the above observations, the reader will easily infer that the author considers early vascular depletion as forming the very first item of efficient practice for the subduction of the disease under consideration. Dr. Gooch mentions the case of a lady, a subject of this malady, "who was bled from the arm four times in one week." This reference forms a part of the descriptive history of a case which had been much mismanaged before it came within the cognizance of the late author of the essay on the irritable uterus. But it proves nothing beyond the fact of a most preposterous abuse of a most important indication of treatment. The author, after many years experience in the management of this disease, can scarcely bring his mind to entertain the idea of the necessity of general bleeding in any case of it whatsoever. At all events, he has never yet seen a case of it in which he has considered general bleeding especially indicated. The complaint is essentially a local one, and by the method of local depletion more than once adverted to in the course of the present work, by means of leeches directly applied to the orifice of the uterus, the turgescient condition of the vessels of that organ cannot fail to be very speedily reduced. It is, however, much to be regretted, that the earliest opportunity for thus subduing the phlogosed condition of the uterus is seldom afforded us; the greater number of our patients choosing rather to await the events of time, than on the first onset of a malady involving possibly more interests and more considerations of delicacy

than one, to apply without delay for competent medical advice. Although, in consequence of the procrastination here supposed, it may often be put out of our power to cut short the disease; we shall nevertheless seldom find ourselves too late to be able to effect much good by a direct abstraction of blood judiciously repeated from the uterus itself. When that organ is intensely charged with blood, which may be ascertained by its being more than usually painful and swollen, and still more certainly by the aid of the speculum, four middle-sized leeches applied to its orifice will generally ensure the abstraction of about eight or ten ounces of blood from it in the course of about two hours' time. The operation is so far from being attended with pain to the patient, that she is seldom conscious even of the mere contact of the leeches. These abstractions of blood will require to be repeated from time to time, the quantity to be obtained to be varied according to circumstances. Dr. Gooch very judiciously observes, "that in determining the frequency and extent of blood-lettings," meaning local abstractions of blood from external surfaces contiguous to the uterus, "not only the pain but the state of the constitution ought to be taken into the account."

Another indication in the treatment of the irritable uterus, scarcely less important in reference to the hoped for issue than the abstraction of blood in the manner here recommended, will be found in the almost uniform observance of a horizontal position of the body. If these two great measures could be made available at the very commencement of a case of this kind, there would appear to be no good reason why the irritable uterus should not be speedily and certainly cured, as well as any other inflammatory affections of particular parts of the body indebted for their origin to similar causes. In cases of painful states of joints, for example, consequent upon over-extension of their ligamentous tissues, it is well known what great restrictions are imposed upon patients by all skilful surgeons in respect to their subsequent position and movements. In the same manner, and for a similar reason, should the subject of uterine irritation confine herself to a posture which shall least promote a congested state of the blood vessels of the affected organ. In a case of this description, it will be of very little use to abstract blood from the uterus one day, and on the very next to put it in a situation to be as tensely charged as it was before.

After the disease shall have become chronic, it will be vain to expect an early recovery; which indeed could then be obtained only by more than ordinary perseverance in the use of the means. There is, however, one point of practice, in reference to this form of the disease, to which the reader will do well to pay particular attention. The subjects of "the irritable uterus" are not always unsusceptible of impregnation. On the event of conception taking place during a period of remission of its most urgent symptoms, the medical attendant should then more than ever, and especially during the earlier months of gestation, insist upon the strictest conformity to his precepts in respect to the observance exclusively of the horizontal position. The action of gestation introduces a

great change into the uterine system. During the last four months it places the uterus in a situation to be in a great measure secure from the attacks, if not altogether beyond the reach of some of the most influential occasional causes, of the disease. On the completion of the process of parturition, the patient may indeed be said, in reference to her former complaint, to have the opportunity of commencing a new life. If, during that period, she could be induced to keep her bed, in the most literal sense of that expression, for six weeks or two months, she would almost certainly secure herself against a relapse of her complaint subsequently to her confinement. In consequence of the prodigious development of parts interested in the business of gestation, nature is observed to exhibit a power of self-restoration and adjustment during the puerperal state, which at no other time nor under any other circumstances does she seem competent to exert. Hence, in cases of moderate prolapsion of the uterus incurred by forward conduct, during one confinement, a perfect cure may frequently be obtained by the patient confining herself to her bed, and maintaining rigidly the horizontal position for at least five or six weeks subsequently to her next delivery.

A third item in the treatment of the disease under consideration, is to administer especially to the symptom which seems to have suggested for it the designation of "the irritable uterus." Under this head also the habitual observance of the horizontal position, and of great quietude even in that position, it is an essential part of our duty to recommend. But the distressing pains incident to the complaint, are also in all cases to be very importantly relieved by soothing and pacific medicines. It need not be observed, that of all the medicines of this class, opium is incomparably the most powerful. But to the exhibition of opium in this disease, there are two considerable objections; viz. because it generally produces constipation of the bowels, and very frequently acts as an anti-cholagogue. When productive of neither of these effects, or when such effects can be conveniently and effectually obviated, opiate medicines may be prescribed in cases of the irritable uterus with much advantage. When the use of opium is contra-indicated, henbane or hemlock may be substituted, and combined in the form of extract with an equal quantity of camphor and soap so as to form five grain pills, of which one should be taken three or four times a day. When opium given by the mouth disagrees, it may nevertheless prove a very useful remedy in many cases if administered as an enema. With this view, a very convenient form is the extract of poppy dissolved in an ounce or two of gruel or barley-water. The quantity of the extract to be used at one time should range between five and fifteen grains, according to the urgency of the demand for it. "The solution of poppy if retained, remains in the rectum till the next evacuation of the bowels, and until that time seldom ceases to soothe. If, however, this should not be the case, the injection may be repeated during the day, and as it is removed every time the bowels are evacuated, it should always be replaced by another injection. Want

of exercise and narcotics almost always occasion constipation, which requires aperient medicines; but these must be of the most un-irritating kind. A purgative sufficiently active to operate several times, almost always aggravates the pain; and a long course of such medicines, which I have sometimes seen employed from the belief of disorder in the liver, has produced great and long-continued mischief. That is the best aperient which will act only once plentifully, and without pain; and those which most frequently act in this way, are a solution of sulphate of magnesia in infusion of roses, castor-oil, electuary of senna, sulphur. Of one of these, enough to produce the effect which I have described should be taken every other day." *Gooch's Account of Important Diseases peculiar to Women*, p. 322.

Another remedy often used in painful affections of the uterus is mercury. In cases of "the irritable uterus," accompanied by considerable obesity, and such cases are sometimes although not often met with, the author thinks that he has seen this remedy do much good. In one case, which in the absence of notes presents itself vividly to the recollection of the author, for which a great variety of medicines and of modes of management, and amongst others small doses of steel wine and the warm hip-bath, on the suggestion of Dr. Gooch in consultation, had been employed with little or no advantage, an alterative charge of mercury exhibited very cautiously, kept up for three months, to a degree only to have promoted the slightest possible ptyalism, produced a most admirable effect. The patient had been the subject of a distressing irritation of the uterus for several years. It was considered to have been brought on by mismanagement during the patient's last puerperal confinement, but much exasperated by a visit to Paris soon after the second Bourbon restoration. The subject of the case was about thirty years of age when the author was requested to see her for the first time. She was a fine handsome woman, and approaching to corpulency, although she had been an invalid for about four years, and in the mean time had taken many medicines, and had been often bled in the arm, and topically by leeches. She had moreover been principally under the care of a metropolitan general practitioner, distinguished for a sort of spurious eminence, but especially notorious for his practice of accommodating his patients with immense quantities of medicines for days and weeks after he ceases to find it convenient to honour them with his personal attendance. In short, the lady had taken all the medicines that are most commonly employed in the routine practice of the London shops, and occasionally, amongst others, some considerable measures of calomel in combination with cathartic extract of jalap, rhubarb, etc. for aperient purposes, without having derived any substantial advantage from any course which had been prescribed for her. On account of some trifling impediments which were represented to have affected the urinary passages both renal and vesical, the author was induced first to order a course of the uva ursi combined with henbane. The subordinate

symptoms in question were certainly much mitigated; but the principal malady, the uterine irritation, was scarcely affected, or at best but very triflingly soothed by these medicines, taken in pretty ample doses for a month. It was then proposed to try the effect of cantharides, well guarded with henbane and the compound powder of tragacanth, the patient, in the mean time, consenting to adopt the horizontal posture, excepting during short intervals, which she devoted to her toilet and her meals. The tincture of cantharides was taken, with occasional intermissions of two or three days at a time, in daily quantities of from one to four drams, for about fourteen weeks; but certainly without benefit, and even without the promise of any benefit whatever. It was therefore laid aside; when, with the full consent and understanding of the fair subject of the case, it was arranged that a cautious trial of mercury, with a view to the production of the specific effects of that remedy, should be forthwith substituted. It was further stipulated that she should continue to observe the same rules of personal discipline in respect to abstinence from all causes of disturbance, whether of body or mind, which she had very strictly observed up to that time. In one month after the commencement of the administration of the new remedy, the patient considered herself much better, and she discovered that she could sit up to her meals, and walk from her sofa-bed to her window without any perceptible increase of pain, and with less inconvenience of any kind than she had sustained for some years before. At the end of three months, when the use of the mercury was laid aside, she was indeed considerably reduced as to her embonpoint, and her complexion, which is naturally florid, was perhaps in a trifling degree subdued; but she was so importantly relieved of her uterine symptoms, that she represented herself as perfectly free from all complaint. In fact, the cure was permanently accomplished; for she never has been a complainant since. The form of the remedy used was Plummer's pill, and it was exhibited in combination with the extract of henbane. The bowels in the mean time were kept open by injections of gruel and brown sugar, and, if required to be repeated, an addition was made of an ounce of olive oil. Leeches were applied about six times to the inside of the labia pudendi. The author was not then acquainted with the practice of applying leeches to the orifice of the uterus. The patient continued to use the recumbent posture for many months subsequently to her recovery, and to lead a very retired life for a much longer period. She has sustained no relapse of her complaint; and, with the exception of being occasionally subject to an inconsiderable fluor albus, has always enjoyed a very good state of health.

The author has not experienced any great advantage from the use of any preparations of iron in this disease, excepting when the irritation has obviously depended upon leucorrhea or painful menstruation; in the former of which cases especially he considers the carbonate of iron, given in ample doses, as a most powerful remedy. He has seldom had recourse to the use of the warm hip-

bath. Bathings of any kind can seldom be made available without exposing the patient to much inconvenience from changes of position. He has consequently principally relied upon local bleedings, judiciously from time to time repeated, the observance of the most perfect rest in the recumbent position for an indefinitely long period, and upon the exhibition of mild charges of mercury, sufficient nevertheless to produce a merely ascertainable effect on the salivary organs. He has accordingly employed aperients, narcotics, and other classes of medicines, more as auxiliary than as principal remedies.

CHAP. VI.

OF CERTAIN FUNCTIONAL DISEASES OF WOMEN, VARIOUSLY
CLASSED BY NOSOLOGISTS.

OF HYSTERIA.—*Passio hysterica, affectio et passio uterinæ, suffocatio matricis, strangulatio uteri, malum hystericum, mal de mère, etc.* All these designations of the disease now about to be made the subject of some practical remarks, refer pointedly to the uterus as being either the source of its origin, or supposed to be a principal seat of its operations. Such were indeed almost exclusively the views of the ancients upon the subject. Modern nosographers, on the contrary, have more frequently classed hysteria among the diseases of the nervous system. Sauvage and Vogel placed it under their class of spasmi; whilst Cullen and Pinel placed it among their neuroses. Hysteria has been known as a remarkable disease from the earliest times; and in all ages it has been recognised as having some positive connexion with certain unknown or imperfectly understood conditions of the uterine system. In some respects it may be considered as a disease of a distinct character, and peculiar to the human female; whilst in others it would seem to claim many striking analogies with certain well-known maladies common to both sexes, and common also, in respect to some few of its symptoms, to the human and to other species of animals. Sydenham, for example, appears to have recognised so close an analogy between the hysteria of the female and the hypochondriasis more frequently referred to as a malady of our sex, that he was induced to identify them as one and the same disease; whilst by others, analogies the most striking have been traced between hysteria and mania, furor uterinus, epilepsy, hydrophobia, tetanus, etc. From its being a disease principally, if not exclusively, of function, hysteria, even its worst forms, has rarely terminated fatally. Hence the obscurity which has generally hung over the subject of its proximate locality or seat, and consequently the remarkable diversities of opinion which have existed on that point. On that subject the most ancient hypothesis is, that it is essentially an affection of the uterus. This opinion has still many ardent supporters. Hippocrates considered the uterus as having an independent entity, endowed with the attributes of sensation, locomotion, and a self-governing volition; but, nevertheless, like the thinking human soul, susceptible of influences from causes remote from itself. Consistently with these fanciful views of its extraordinary powers, this organ has been represented as comprehending within its vortex

a sort of furnace for the manufacture of malignant animal vapours, a class of fluids competent from their subtlety, added to their incomparable activity, to penetrate into all sorts of living tissues. From the central caldron within the pelvis, where these mysterious influences were supposed to be engendered, it was assumed that they possessed the power, under the potent direction of the uterine mind, of bursting into a thousand irresistible streams of noxious agency, and of traversing uncontrolled the inmost recesses of the abdominal and thoracic viscera, of ascending to the parts about the throat and even to the brain itself, and in short of being able so to embarrass the movements of life, as to threaten to involve in one common destruction all the functions of all the organs of the unhappy being who became the subject of their tempestuous operations. But to dismiss these hyperbolical descriptions, the hypothesis which maintains that the uterus is the seat of hysteria, is supported by several very plausible arguments; viz. 1st. Hysteria is doubtless a malady peculiar to women. 2. It is a disease principally of such women as are partially or wholly restrained by the obligations of continency, whose uteri may well be supposed to be subject to the condition of a spermatic plethora. 3. The hand placed upon the hypogastric region, or the finger introduced into the vagina during the presence of a hysteric paroxysm, may easily recognise a remarkable movement of the affected organ. 4. A happy and productive marriage is, in a large proportion of cases, a remedy of the disease. 5. On recovering from a hysteric paroxysm, the patient is often cognizant of the presence of a profuse spermatic secretion, accompanied by a sense of voluptuousness. 6. Post-mortem examinations have exhibited important structural changes both of the uterus and of the ovaries.

With respect to several of the above positions, it may be observed that they seem to be considerably overstrained. It is, for example, very doubtful that continence ought to be ranked amongst the more frequent causes of hysteria; whilst it is notorious to all the world that matrimony is far from being an infallible remedy for it. The hysteric movement, to be felt upon the application of the hand to the hypogastrium, is not common to all cases; and it is even asserted by a French writer of reputation, that this supposed attribute of the uterus has been recognised in some male subjects. Villermay *Traité des Malad. Nerv.* p. 60. It has been much disputed whether the disease is really peculiar to the female sex. The same French writer quotes many cases of convulsive affections in the male subject, which bore the most striking resemblance to the hysteric passion of the female. Amongst several others, the author is able at this moment to call to his recollection one very remarkable instance of a convulsive paroxysm of this description, which occurred in the person of a very talented member of the present English bar. It lasted for about ten minutes. It was not repeated. It was indebted for its occasional cause to the sudden death of an only son. The eye recognised something of an abdominal movement; but the hand was not applied to the hypogastrium. The author is however very doubtful whether the

case would have been admitted as one of genuine hysteria by an intelligent and impartial nosologist.

The fact of a motion of the uterus being to be felt by the introduction of a finger into the vagina has been most positively denied; whilst, also by other writers, it has been asserted that there are no diseases which have left on organs supposed to be their seats, less evidence of structural changes produced by them.

Hysteria has been known to co-exist with the most perfect performance of all the known functions of the uterus and its dependent organs; viz. menstruation, conception, utero-gestation, parturition, and lactation. The uterine hypothesis has been ably controverted by many eminent writers, among whom we may mention the names of Sydenham, Highmore, and Willis, in this country; and those of Stahl, Boerhaave, Raulin, and Lorry, with those of many others on the continent. According to the opinion of the greater number of the above writers, hysteria is an idiopathic disease of the brain, common to both sexes, and therefore not essentially different in kind from epilepsy. Willis considered it to be a convulsive disease, and therefore a proximate result of a certain affection of the brain and nerves, having its origin often in the head, but sometimes in the visceral tissues of the other cavities of the body. Highmore attributes its paroxysms to an impeded circulation of the blood through the heart and lungs, and thence, according to him, the dyspnœa, the syncope, the determination of blood to the head, the compression of the intestines by the diaphragm, and the sensation called the *globus hystericus*. Sydenham was probably the first to identify hysteria with hypochondriasis, and to connect both maladies with an irregular distribution of the animal spirits. Other writers have described both diseases under one and the same designation. Many writers have connected its proximate locality with different organs within the abdominal cavity, whilst not a few have especially identified it with certain unknown conditions of the nervous tissues subservient to the functional attributes of those organs.

The most characteristic phenomenon incident to this remarkable disease is that of the convulsions by which its subjects are agitated. Were all its other properties to present themselves at the same time in the same individual, unaccompanied by this, they would scarcely be recognised as constituting a case of hysteria. If we examine closely the character of the greater number of premonitory, concomitant, and consecutive symptoms of an attack of hysteria, we shall not find it difficult to refer a very considerable proportion of its phenomena to the head as their principal source, the disturbances manifested by the thoracic and abdominal viscera being almost always consequences of the violent spasms which characterize the malady.

If to that consideration we add that many subjects of hysteria, in its most violent forms, are often remarkable for possessing during the intervals between its paroxysms a good state of their chylopoietic functions, and that they exhibit the appearance of excellent general health, with much freshness of complexion;

that the ordinary consequences of hysteria, when after becoming a disease of many years' duration such consequences follow, are most frequently lesions of the understanding, of the senses, and of the organs of voluntary motion; that at the commencement of the malady, the organs of nutrition rarely exhibit any remarkable disorders of a permanent character; that hysteria has sometimes been seen complicated with epilepsy and catalepsy; that a great proportion of the causes of the disease are intense moral affections: if all these circumstances are really as they are stated, then is the hypothesis which refers the disease to derangements of the cerebral system as its principal and primary source obviously entitled to much consideration. But although hysteria might thus very truly have for its source certain morbid conditions of the brain and spinal marrow in the first instance, it is nevertheless a fact of no little importance, that in the sequel the viscera of the thorax and the abdomen become frequently seats of lesions deserving of the most serious attention of the physician.

There however yet remain to be noticed several other hypotheses of the proximate cause of hysteria; such as displacements of the uterus, vitiated gaseous secretions having their source in the abdominal viscera, certain morbid explosions of the so called animal spirits, visceral obstructions, functional feebleness of the alimentary canal, interrupted crises of constitutional diseases, accumulations of serous fluids within the encephalon, obstructions to the circulation and equable distribution of the blood in the head, heart, or lungs, morbid tension and induration of the nerves, some presumed neurosis of the uterus, and finally chronic metritis.

The two latter opinions may appear to deserve some portion of our attention. Pinel and Villermay are of opinion that hysteria is really a uterine neurosis; whilst Pujol, on the other hand, has publicly stated his belief, that "the hysteric affections of women are a production and a symptomatic effect of slow inflammations of the uterus."

As to the pretended neurosis of the uterus of Pinel and his disciples, it seems not improbable that the idea of it was first suggested on account of the difficulty encountered in attempts to discover any real lesions either of structure or functions in that organ. If such really was the fact, as insinuated by some French writers, it furnishes an evidence of the untenableness of the hypothesis. Pujol infers the existence of chronic metritis as a source of the malady under discussion for the several reasons following; viz. 1st. Because post-mortem examinations have furnished indisputable proofs of the fact. 2. Because pressure applied to the hypogastrium occasions pain. 3. Because a great majority of the women who are afflicted by this disease, are also subjects of fluor albus and of great irregularities of the menstrual function. 4. Because hysteria frequently presents itself at the age when women cease to be regular, when the uterus is often known to be affected with chronic inflammation. 5. Because pregnancy and parturition have often been observed to produce

hysteria and other nervous affections, which have again disappeared upon the uterus being restored to its previous state of structural firmness and soundness. Pujol, *Essai sur les Inflammations Chroniques*. Of these various assertions, we may at least observe that many of them are diametrically at variance with counter-statements made with equal confidence by other writers. In confirmation of the first assertion, for example, not a single pathological fact is adduced. The second statement is certainly in very many cases not founded in fact. The third statement can furnish no valuable evidence for the principle propounded; because fluor albus and menstrual irregularities are affections of too common occurrence, both among women who are and who are not subjects of the hysteric passion, to make the argument available either way. The fifth statement is equally without foundation, for the best established facts prove that hysteria occurs most frequently between the ages of fifteen and thirty. The circumstances averred in the fifth and last statement go only so far as to furnish evidence of an influence exerted by the uterus in certain cases, and not of the existence of metritis as the cause of hysteria.

Such have been the diverse opinions of medical writers on the subject of the proximate cause of this disease. The hypothesis of its origin in some morbid but unknown condition of the cerebral system, may perhaps upon the whole deserve to be considered as the most probable. The reader, however, will be kind enough to observe, that all the speculations which have yet been offered on the subject, have amounted to little more than to simple statements of opinions.

The REMOTE CAUSES admit of being better founded on observation and experience. The circumstances usually enumerated as having been most frequently observed to operate as predisponent causes of hysteria are, a certain degree of delicacy of constitution; a sanguineo-nervous temperament; great physical sensibility; an effeminate education; an ardency of the uterine system; difficulties and irregularities of the menstrual function; continence, whether constrained or voluntary; specific irritations of the uterus.

The more frequently operative moral causes under the same head are, an ardent imagination; a heart too susceptible of the tender passion; all painful as well perhaps as some of the most pleasurable affections of the mind; opposed or disappointed love; jealousy.

When from any of the above causes the predisposition exists, the most simple incident may suffice to produce an explosion, even the first explosion of the disease. Villermay cites a case in illustration of this point, which, as being founded on French manners and French impressions, could scarcely have taken place in this country. A young lady, said to have been the subject of hysteria from continence, fell into convulsions as soon as she saw a medical student, who had revealed to her the cause of her malady. The sight of other students of the same profession produced not the same effect.

In some cases, on the other hand, the predisposition has been so inconsiderable, that many causes have been required to unite their influence in order to effect

an actual development of the disease. Dict. des Sciences Medicales, tom. xxiii. p. 231. Thus age, for example, or period of life, is usually noticed as one of the circumstances constituting a predisposition to this malady. But a mere liability to the disease, exclusively between the age of puberty and that of the final cessation of the menses, might often require to be united with some other circumstance or peculiarity of physical character or temperament to constitute any considerable predisposition to hysteria. On the other hand, A LIABILITY TO A RELAPSE of the complaint may be generally assumed to constitute of itself a predisposition sufficient for its re-establishment upon the application of an inconsiderable exciting cause.

Among the predisponent causes of hysteria, we may just mention certain individual susceptibilities to impressions founded on remarkable peculiarities of mind or states of the nervous system, constituting what have been very expressively called idiosyncracies. The following passage, which it is more than probable was originally penned without any reference to the present subject, may be made available to the illustration of this point, without much violation of literary propriety, and at no great expense of ingenuity in its application. Let a reversal of the sexes be presumed, and each example quoted would at once be recognised as furnishing a striking case of predisposition to hysteria. It is well known that similar fooleries or fantasies in women are really identified with an intense predisposition to that disease. The author recollects having been once himself the innocent means of almost victimising an old maiden lady of seventy by making use of the talismanic word MOUSE. "Henry the Third of France could not stay in the room where there was a cat, though so immoderately fond of dogs that he was seen to go about with a basket of young puppies suspended from his neck by a black string. The Duke d'Epemon fainted at the sight of a leveret. Mareschal d'Albert could not endure the presence of a wild boar, nor even that of a sucking pig. Ulidaslas king of Poland was distracted at the sight of apples; nor could Erasmus smell fish without being greatly agitated. Scaliger trembled at the sight of water-cresses. Tycho Brahe felt his limbs sink under him when he met either a hare or a fox. Bacon swooned at an eclipse of the moon, and Boyle fell into convulsions on hearing the sound of water drawn from a cock. James the First could not endure the sight of a drawn sword; and Sir Kenelm Digby has told us that the king's hand shook so much in knighting him, that he would have run the point of his sword into his eye if the Duke of Buckingham had not directed it towards his shoulder. La Motte de Vayer could not endure music, but delighted in thunder. An Englishman of the seventeenth century was nearly expiring whenever the 53rd chapter of Isaiah was read to him; and a Spaniard about the same period fell into a syncope when he heard the word lana (wool) mentioned, though his coat was made of that material." From the Liverpool Albion Newspaper, copied into the TIMES of October 19th, 1826.

A predisposition to hysteria is, no doubt, to be ascribed in many cases to a

congenital inheritance of physical conformations and temperaments. "The greater number of sufferers from this disease," observes M. Georget, "have descended from parents, or have been members of families, remarkable for their liability to nervous diseases, in the several forms of hysteria, epilepsy, maniacal affections, hypochondriasis, nervous head-aches, deafness, blindness, palsies, etc.; or, as in other cases, the subjects of melancholia, irascible tempers, tempestuous passions, fits of suddenly difficult respiration, threatening suffocation, and of strangulation from spasmodic constriction of the larynx." *Dict. de Med.* tom. xi. p. 532.

Among the principal OCCASIONAL CAUSES of hysteria may be instanced, 1st, certain states of the atmosphere in respect to temperature, humidity, density, noxious miasmata, electric phenomena, etc. 2. Personal exertions, either mental or bodily, unusually severe, or too long protracted. 3. Painful and irritating applications to the surface of the body. 4. Great compression of certain parts of the body by ill-devised or worse-applied articles of dress, as stays too tightly drawn, garters, head-dresses, etc. 5. Acute pain, by whatever causes produced. 6. Unwholesome articles of food; wholesome food in excessive quantities; the abuse of wines, spirits, and fermented liquors; violent and irritating medicines; all ingesta calculated, whether by their quantity or quality, to impair the power or to disturb the process of digestion. 7. All influences productive of derangements of the secerning functions. 8. Morbid sequelæ of diseases, and chiefly of those of the nervous sanguiferous and secerning systems. 9. Peculiar states of these several systems, as connected especially with the uterus and its appendages. Under this latter item of causes, are of course to be included all derangements of the catamenial function, viz. painful menstruation; late appearance, retention, deficient or excessive quantities, irregular recurrence of the period, and suppression of the menses; vicarious substitutes for the natural discharge; the monthly function itself too long protracted; some forms of uterine hæmorrhage; all kinds of leucorrhæal profluvia; morbid consequences of abortions and premature labours; structural diseases of the uterus, and of its immediately contiguous organs; to all of which may be added, the peculiar excitements incident to the age and developments of puberty. The influence, indeed, exerted in the production of hysteria, by what foreign writers have perhaps not inappropriately called the uterine life of the sex, is not only unquestionable as to its reality, but almost unlimited as to the extent of its operation. It is not an influence merely of given states of an individual organ upon certain conditions of other organs contiguous in position or analogous in functions to itself, but one which would appear susceptible of being propagated indefinitely to any or to all the organs of the body, and even in some sense possessed of capacity to embrace within the wide range of its activity the entire being of the individual. Hence its remarkable aptitude to connect itself with the affections of the female heart, and thence consequently but indirectly its competency to rouse to exalted excitement, and even in many cases to actual frenzy, the

nobler faculties of the soul. Hence, in a great proportion of cases, the impossibility of abstracting the consideration of this dominant agency of certain states or functions of the uterus in the production of hysteria, from that of their being connected together by the relationship of cause and effect, as intimately perhaps and as necessarily, as we usually observe that relationship to be sustained in all other cases within the sphere of our observation. Hence, in fact, the dreadful efficiency of moral causes, as also the apparent contrariety of different influences of this kind, considered as agents in the production of the disease in different cases and in the same individuals at different times.

In concluding our sketch of the occasional causes of hysteria, we may observe, finally, for the sake of brevity, that it must necessarily embrace all material agents capable of stimulating the external senses; all objects of pleasure or pain which can be supposed competent to affect the passions and those phenomena of the mind which have been usually denominated the affections; and lastly, all objects of intense intellectual contemplation, or, in other words, of profound, severe, or too-long-continued employment of the higher faculties of the understanding. On the particulars of so wide a subject, the author cannot at present permit himself to enter. A disease so remarkable for its almost boundless varieties and combinations of causes, must, indeed, be expected to present a corresponding diversity of characteristic symptoms. Hence accordingly is its proper history little more in many cases than an incongruous assemblage of fantastic and anomalous phenomena, varying in the intensity and rapidity of development, succession and duration of its paroxysms, in its degree of resistance to the influence of medicines and other curative measures employed to subdue it, and in its periods, causes of relapses, complications, and terminations.

OF THE SYMPTOMATOLOGY OF THE DISEASE.—We may notice, as one of the principal symptoms of hysteria, the extreme mobility of character of the persons who are most frequently the subjects of it. Almost all hysterical women are highly susceptible of impressions, easily disturbed by slight causes, often endowed with much ardour of imagination, sprightly in their manners, vivacious and rapid in their movements, sometimes impatient and irascible in their tempers, and not unfrequently self-willed in their decisions, and obstinate in the pursuit and accomplishment of their purposes. They are also generally exceedingly sensible to the action of external objects on the organs of sense, as likewise to the perception of changes of temperature, and other conditions of the atmosphere. Active and mobile during the day, they seldom sleep either long or very profoundly during the night: their sleep, on the other hand, is often broken and imperfect, disturbed by dreams, and interrupted by sudden startings and alarms. Generally gay, even to frolicsomeness and folly, the subjects of this extraordinary neurosis are at other times unusually grave, too silent, apparently depressed in their spirits, and much addicted to private meditation and solitude. In short, they are gay and gloomy alternately; joyousness and weeping, each in its turn

quickly banishing the other. 2. Subsequently to the accession of the more decided and characteristic forms of the actual disease, there will often supervene an obstinate vigilance, with incessant and most distressing head-aches, accompanied by a feeling of heat in the head, tenderness upon pressure, and exacerbation of the pain of the head upon the slightest movement. 3. In the intervals between those periods the patients are usually greatly depressed, sometimes the subjects of vertiginous sensations, morose and impatient in their tempers, incapable of much connected thought, or of intellectual efforts of any kind, and equally incapable of pursuing with any advantage their ordinary occupations. In some cases the memory is impaired or nearly abolished; whilst in consequence of the attention being pre-occupied and intensely engaged in secret meditation, the patient exhibits in many cases an air of so much absence and insensibility as to have the appearance of a person deranged or slightly idiotic. A feeling of vertigo is sometimes accompanied by that of a buzzing or tingling noise in the ears which often greatly distresses. Many women, especially in the summer, are subject to frequent somnolency and drowsiness, without however being able to enjoy much sound and refreshing sleep. Others are tormented with great restlessness, and perpetual action of their limbs or features followed by numbness, or even by spasmodic stiffness of the muscles of the same parts. The muscles of the larynx and pharynx seldom escape being implicated in these rigidities; which indeed may be considered as constituting the first positive indication and actual declaration of the characteristic part of the malady. These partial rigidities of the muscles especially of respiration, are frequently accompanied by deep sighs, gapings and yawnings; all of which being strong premonitory symptoms of the approach of a paroxysm of convulsions. By these and other indications the patient is often competent to anticipate the result which is speedily to follow. M. Georget observes, *Recherches sur les Maladies Nerveuses*, tom. i. p. 268, that such of the unfortunate inmates of the Salpêtrière as are the subjects of this disease, are always cognizant of its precursory warnings, and apply to the assistants to be properly secured to their beds, and again to be set at liberty upon the remission of the paroxysm. The convulsions are in fact an increase in intensity of the head-aches, agitations of the spirits, slight spasmodic contractions of the muscles of the limbs and parts about the throat, and of the other symptoms just adverted to. These latter are observed to precede the actual paroxysm for a longer or shorter time; sometimes for twenty minutes or half an hour, and at other times for several hours, and even for days. It should be observed that the precursory symptoms in some cases acquire an extreme degree of intensity, so as to suggest the use of very strong language in the description of them; as those of "compression of the head against an anvil or between the cheeks of a vice, of its being battered and broken to pieces by the strokes of a heavy hammer; that of the brain being in a boiling state, or of its being in contact with boiling oil," etc. Some patients complain extremely of being constantly tormented by a sense of whizzing noises, and

by that of fancied detonations or explosions analogous to those of certain operations in chemistry or electricity. These distressing sensations most frequently occupy the crown of the head; and least frequently the forehead or occiput. When the patient ceases to be able to sustain a standing or sitting position, the entire muscular system or the major part of it is seized with convulsions, the functions of sense and the faculties of the understanding become partially or wholly suspended; and she not unfrequently utters loud and hideous noises, such noises as have sometimes been compared to the howlings of foxes and wolves. Most young subjects are said to call out for their mothers. In many cases the consciousness is not entirely abolished, the patient frequently comprehending what is said to her, and being cognizant of what is done to her and in her behalf. Wholly occupied however with the idea of her extreme sufferings, she seldom finds time or inclination to answer questions. One of the most characteristic symptoms of this malady on the invasion of a paroxysm, is an obscure sensation of a globular body, denominated the *globus hystericus*, ascending gradually from the pelvic cavity, or at least from the hypogastrium, to the throat; where it is felt to be in some sense arrested, and to produce a most painful sense of constriction and suffocation. It seems difficult to state positively the source of this singular movement. It well consists with the doctrine which ascribes the origin of the hysteric passion to certain states of the UTERUS, to identify it with an actual produce of that viscus. Others have considered it as consisting exclusively in a spasmodic affection of successive portions of the intestines and of other muscular structures occupying the usual tract of its ascent from the hypogastrium to the throat. That the uterus is really the source of this peculiar action or sensation, there is however considerable reason to doubt. M. Louyer Villermay speaks of an impression of an indistinct movement felt IN THE REGION OCCUPIED BY THE UTERUS, and of that organ as of THE CENTRAL POINT whence it is probable the action in question takes its departure. "It then," he farther observes, "seems to follow the course of the great sympathetic nerve, and to proceed in its route by a sort of oscillatory movement, sometimes rising towards the surface, and sometimes as if sinking towards the interior of the abdomen," until it arrives at the throat. The subject tissues of its agency are probably the muscular fibres of the tract along which it would seem to be directed. The author had once a good opportunity of witnessing the impression produced by it on the abdominal muscles. On that occasion nearly the whole surface of the abdomen was thrown into violent and consecutive agitation, from the hypogastrium upwards to the chest and throat. The peculiarity of appearance which it occasioned, was such as instantly to suggest the recollection of a common but very striking phenomenon in nature, viz. that of a magnificent boar-stream, as it is called, or the head of a strong flood-tide making its resistless way along the channel of a river of moderate breadth at no great distance from the sea. The abdominal surface was greatly agitated, as the boar-stream also is wont to be, when opposed to the action of a strong contrary wind. When

the morbid current at length had reached the throat, the abdominal disturbance perceptibly subsided; but nevertheless continued for many hours subsequently to exhibit the subdued appearance of a ripply and wavelet surface. The muscular convulsions incident to this disease are either directly or indirectly an efficient cause of many of its other most important phenomena. The characteristic distortions of the face, it may be observed, are obviously effects of spasmodic contractions of its muscles. The masseter, zygomatic, and temporal muscles, are usually so strongly contracted as to bring the jaws into close approximation, and by the convulsive irregularity of their movements to produce a loud grinding of the teeth. Although perhaps not absolutely pertinent to the present subject, the author thinks he may not improperly notice a very curious case of convulsive action of the masseter and temporal muscles, published by Dr. Whytt. "A girl, aged eight years, in the beginning of September 1759, was seized with an alternate motion of the masseter and temporal muscles, for which no cause could be assigned. This motion exactly imitated the pulsation of the heart; only that those muscles were contracted and relaxed above 140 times in a minute, while the heart did not make above ninety strokes in the same time. Their contractions were all of equal strength, and the intervals between them were also equal. When the patient pressed the teeth of the lower jaw strongly against those of the upper one, by a voluntary contraction of the masseter and temporal muscles, their convulsive motions were much less remarkable; and when she pulled down the lower jaw as much as she could, and by the continued action of its muscles kept it in that situation, the masseter and temporal muscles were nowise convulsed. Before I saw this patient, she had been blistered along the course of the affected muscles, which lessened their convulsive motions so long as the blistered part continued to run, but no longer. I ordered plasters of the *emplastrum antihystericum*, with some opium, to be applied where the blisters had previously been; but these were kept on no longer than two days, during which time the convulsions were weaker and less frequent; not being repeated more than fifty or sixty times in a minute. In a day or two however, after the removal of these plasters, the convulsive contractions became as strong and as frequent as ever. Powdered brimstone was rubbed on the temples and cheeks without any visible effect. Suspecting that the disorder might proceed from worms, I prescribed a bolus of rhubarb and calomel, which the girl obstinately refusing to take, her father went to fetch a horsewhip to beat her. The fear of this affected her so strongly, that without the bolus the convulsions of the masseter and temporal muscles instantly ceased, and have never since returned excepting once on occasion of a fright, when they continued nearly an hour, and then went off without any remedy. Whytt's Works edited by his son, p. 689. Edinb. 1768.

The smaller muscles about the mouth, and those which move the eyelids and eyebrows, are in general but inconsiderably agitated. The eyelids are for the most part closed. The countenance usually presents the appearance of

considerable animation and colour, and is indeed seldom, perhaps never, so much distorted as it always is in paroxysms of epileptic convulsions. The violent spasms of the muscles of the larynx are such as to produce extreme constriction of its tube, and a most painful and frightful sense of strangulation and suffocation. In almost all cases of hysteric convulsions, the function of respiration may be observed to be tremendously impeded and disturbed. That function is indeed in many cases all but fatally confounded and interrupted. This effect is manifestly produced by two sets of co-operating causes, viz. by the much-reduced dimensions of the thoracic cavity consequent upon the highly tonic spasms of many of the strong muscles, which act upon it and which form no inconsiderable portions of its parietes, and by the reduced dimensions, and even temporary annihilation of the laryngeal and tracheal tube, as already adverted to. In some cases the diaphragm remains for many hours immoveably contracted, so as to give the patient the sensation of a strong barrier being thrown across her body at that part, as also the additional impression of being tightly bound round the waist by a strong chord. The muscles of the neck and back are sometimes thrown into a state of spastic rigidity in this complaint, producing a sort of opisthotonos, and at other times into irregular contractions and relaxations, so as to occasion quick and sudden movements of the head and neck. Convulsive actions of the cervical and dorsal muscles are however much more frequent as well as incomparably more violent in cases of epilepsy than in paroxysms of hysteria. The muscles of the limbs are usually exerted with much force and violence, so as to be made to perform some most fantastic and powerful feats of flexion and extension; and if the patients be not restrained, they are thus obviously exposed to the liability of doing themselves considerable personal injury.

The state of convulsion just described, and spastic rigidity of certain parts of the muscular system, the reduced dimensions of the thoracic cavity, and especially the restraint imposed upon the circulation of blood through the lungs, must obviously tend TO EMBARRASS THE HEART'S ACTION, not to add that the muscles of the heart itself may well be presumed to be often similarly affected with those of other parts of the body. From the embarrassments thus sustained both by the heart and lungs, amounting in some cases to an almost total suspension of their functions, the blood which ought to circulate freely and without impediment through both organs, must thus manifestly become liable to be arrested, and therefore indefinitely to accumulate in the venous system, and more especially in the larger veins of the head, neck, and thorax. Hence in many cases the great turgescence of the face, and the enormous distention of the jugular veins. Hence also the confusion, suspended action, and as happens in some cases, the temporary abolition of the intellectual faculties. The heart overloaded on the one side, and almost totally bereft of its ordinary stimulus on the other, becomes in consequence the subject of tremendous palpitations; its prodigious struggles to

throw off its impediments, and to recover its lost balance, being such as to be propagated perceptibly, and to a considerable distance along the trunks of its great arterial estuary the aorta, with which it immediately communicates, and into which it is a principal part of its office to discharge its arterial blood.

Such are some of the more common phenomena of a paroxysm of hysteria. After the lapse of an indefinite period of time, the more violent symptoms gradually subside. The patient is observed to breathe with more regularity, and to fetch deep sighs. On partially recovering her sensibility she often moans piteously, utters expressions of profound distress, and in the midst of her now-more-conscious misery, she weeps bitterly and sheds successive floods of tears. After experiencing a violent head-ache, which often continues for many hours, much depression of spirits, a sense of great exhaustion and fatigue, and of great lassitude and of painful stiffness of the muscular parts principally agitated or for a long time rigidly contracted during the paroxysm, she eventually recovers her previous state of health. It has been already hinted that the duration of hysterical paroxysms is subject to great variety. Some of its accessions may be said scarcely to amount to actual paroxysms. A little inconvenience may perhaps be sustained from a slight affection of the muscles of the throat, and a trifling disturbance of the spirits from apprehension of what may follow, may be experienced, and the threatened storm blows over. A moderate paroxysm is sometimes observed not to occupy more time than a quarter of an hour or twenty minutes. But those which usually distinguish the worst forms of the disease, are protracted, with occasional remissions, over several hours. Some few and peculiar cases, which again we shall have briefly to refer to, have been known not to yield till after the lapse of many days.

The above enumeration of symptoms, though it includes such of the phenomena of the disease as are most frequent and common, is a much too limited account of it, to be considered by the reader as an adequate pathological history of hysteria under all its forms. Nothing for example has yet been said of the mutual influence subsisting between this extraordinary malady and the functions of digestion; and yet it is well known that these important functions are most materially disturbed and impaired by the stormy and long-continued visitations of the hysteric passion. In many cases even the essentially antecedent function of deglutition is not a little injured, and for a time often rendered impossible by the stubborn and long-protracted spasms of the muscles of the throat which in many cases constitute a prominent part of the disease. The contents of the stomach appear to be sometimes ejected by convulsive action of the diaphragm, sometimes perhaps aided by a similar action of the abdominal muscles. Such vomitings are simply accidental occurrences, proximately produced by convulsive action of muscular portions of the diaphragm, and especially to be imputed to the accession of a paroxysm of the disease soon after a meal. In other cases, however, the vomiting may more rea-

sonably be attributed to a morbid state of the stomach itself, as also possibly to the mass of aliment remaining too long a time within its cavity before it is digested; both conditions being of course remote effects of the morbid influence of the disease upon the organs of digestion.

But vomiting is not the only example of a disordered state of the stomach ascribable to the influence of the presence in the system of what we might be permitted to designate a confirmed hysteric diathesis. On the other hand, the greater number of subjects of this disease, are heard frequently to complain of want of appetite, dislike of particular foods, pains of more or less violence in the epigastric region soon after eating, a sense of weight and oppression, or that of tension or of flatulent distention of the same part, during the time when the process of digestion should be carrying on with facility and vigour. Hysterical females, it is moreover well known, are exceedingly liable to acidities of the stomach, tormenting flatulencies, and depraved appetites for offensive and inedible ingesta. The extreme depression of spirits to which the greater number of sufferers from this malady are especially subject, is in almost all cases to be ascribed to feebleness or failure of the digestive process.

The author has met with several cases of hæmatemesis amongst his hysterical patients; voyez Georget, tom. ii. p. 279; but not one which he did not consider a distinct example of vicarious hæmorrhage, instituted for the relief or at least during the presence of suppressed menstruation. Miss A., aged twenty-five, became the subject of acute peritonitis, in consequence of carelessly exposing herself too lightly clad to the action of a very cold atmosphere in the coldest season of the year, after dancing many hours at an assembly. She went shivering to bed, and on the subsequent day was the subject of severe peritonitis. She, however, made no application for medical advice till the day after; when she was bled to the amount of twelve or fourteen ounces with very partial relief. The disease was not subdued. On the third day after the commencement of her indisposition, the author was requested to visit her. It was then ascertained that she had been menstruating during about two days antecedently to the evening of her gayety, and that the discharge had suddenly disappeared in the course of that evening, and not since returned. By more ample general bleeding, and the application of twenty or thirty leeches to the abdomen, and other active measures, which it is not necessary now more particularly to refer to, the peritonitis part of the case was eventually subdued; and the patient appeared to recover tolerably well. At the proper time for her next sexual period, the monthly tribute did not make its appearance. This result, however, was not treated with sufficient attention, and the absence of the usual visitation of the function was naturally enough imputed to the repeated abstractions of blood which had been had recourse to during the treatment of her late complaint. Soon after this the young lady lost her usual spirits; but in the mean time she recovered a very moderate degree of appetite, and a considerable share of her emboupoint; for she had been

rather disposed to a fulness of habit from her earliest youth. Her catamenial function did not however present itself at her next expected period, nor was it indeed re-established for several years afterwards. After she had been suppressed for about four months, she became the subject of a periodical vomiting of blood, which on every occasion of its occurrence was for several hours preceded and succeeded by a most distressing nausea. After the lapse of another period of about four months, her mind became irritable, and she sank into a state of distressing melancholy, for which her friends again took the author's opinion. At this time, though not by any means emaciated, she was considerably reduced in flesh. About the same time, the ordinary medical attendant had reason to suspect, that a long pending affair of the heart, which was not supposed to have been very ardent on either side, was wound to a conclusion unfavourable to the lady's hopes. However that might have been, she almost immediately after became the subject of hysteria. For her manifold complaints, which now, by reason of its dangerous complication, formed a case of greater interest than ever, she took the opinion of several eminent physicians both in and out of London, and therefore presumably the greater number of the medicines which are usually prescribed in such cases, without however being materially benefited by any of them. Under these circumstances she was advised to try the effect of travelling, and of a residence during the colder season of the year in the south of France; a suggestion the spirit of which was soon after complied with. Her father took her and her widowed sister, his only children, to Italy, where they have all resided during the last six years. The fair subject of the present case has very considerably benefited from the change, inasmuch as her menses have been very tolerably re-established; and her hæmatemesis, the author was led to understand, ceased to return after she had lived abroad about a year and a half. Her hysteria, although much mitigated as to its character, has not altogether left her. She has generally been the subject of a considerable leucorrhœal discharge; whereas also she has never been quite free from the more common symptoms of dyspepsia. The reader will be pleased to observe, that the vicarious hæmorrhage was instituted before any symptoms of hysteria manifested themselves.

Examples very similar to the above might be quoted, and there are many such published, in illustration of the complication of hysteria with hæmoptysis. When we consider how prodigiously the pulmonary arterial system, viz. that carrying blood from the right side of the heart to the lungs, must be engorged with venous blood during some severe paroxysms of hysteria, it cannot appear a matter of surprise that hæmoptysis should present itself as an occasional consequence. Miss M., aged nineteen years, of a delicate constitution and of retired and rather melancholy habits, had been subject to an occasional but obstinate constipation, accompanied by other symptoms of dyspepsia from her infancy. To these were added at the age of a protracted puberty those of hæmorrhoids in a very severe form. From the hæmorrhoidal surfaces the discharge was

not so frequent or profuse, as the tumours were unusually large and painful. The monthly tribute was also very sparing, and it ultimately became totally suppressed. After the lapse of two or three months subsequently to this result, some indistinct symptoms of a hysterical character began to manifest themselves. The patient was often observed to sigh deeply, and frequently to shed tears; and she occasionally complained of an extreme difficulty in swallowing; in consequence of which she was sometimes obliged to go for many hours without food. When she made strong efforts to swallow, she was conscious of something like a spasmodic action of the organs of deglutition being instituted as it were for the purpose of resisting it. On the retirement of this symptom, which usually presented itself once or twice a week, and continued for about fourteen or fifteen hours each time, she experienced an almost bulimious appetite; which it was reported she indulged beyond all measure of moderation. In about an hour and a half after one of these immoderate surcharges of the stomach she was seized with a frightful paroxysm of hysteria, which was followed by others in rapid succession for several days together. During the presence of her fits of hysteria, her jaws were kept so obstinately together, that although she moaned frequently and loudly, she was never heard to utter articulate sounds. At length this symptom disappeared, after a duration of perhaps about four months; when it was succeeded by a loud barking and very peculiar cough. The contending efforts which sometimes resulted from the apparently constant necessity of coughing, and the almost perfect impediment opposed to the escape of air from the lungs by an unyielding contraction of the larynx and tracheal passage, were such perhaps as were never exceeded in the intensity of the sufferings produced, by any other combinations of symptoms incident to the disease. In the sequel of the malady these spasmodic coughs were observed to relax in their frequency, and to supervene only at distant and periodical intervals; when however they became frightfully complicated with a profuse expectoration of blood. The disorder appeared now to have arrived at a crisis which no accessional symptoms could well exasperate; but which it appeared of urgent importance to subdue, or at least to mitigate, as soon as possible. This was in some degree affected by moderate bleedings from the arm, and by means of cupping-glasses and leeches applied to the chest, by a succession of blisters applied to the throat, chest, and between the shoulders; to which were added the use of aperients, *foetids*, expectorants, and especially the sulphat of copper in considerable doses. The bloody discharge from the lungs became by these means greatly diminished in quantity, and therefore ceased to excite alarm in the patient's family as to any immediately fatal consequences. In about three years subsequently to its first appearance this symptom totally ceased; a result which may reasonably be imputed to a partial re-establishment of the catamenial function. The means which seemed to have most contributed to the attainment of that object, were a residence in a dry open country to which the patient had not been previously accustomed, and the

free use of purgative medicines exhibited alternately with ample doses of carbonate of iron. The reader may again in this case discover good reasons for imputing the hæmoptysis rather to derangement of the catamenial function as its source, than to the violence of the pulmonary symptoms incident to the hysteric paroxysms, although the latter circumstance might seem competent to furnish quite cause enough for the production of the effect which followed, and which it must be confessed appears to have been very proximately connected with it. But it would seem by no means unreasonable to consider it a common result of a concurrent influence derived from both causes acting in combination.

Since the time of Sydenham the attention of physicians has seldom failed to be directed to a fact, which is supposed to constitute an essential feature of hysteria, viz. that of an unusually abundant evacuation of pale limpid urine, immediately upon the going off of a paroxysm of the disease. "On this subject," observes M. Georget, "I would remark that much exaggerated importance has been attached to the circumstance in question, since, in the greater number of cases, the attention of patients is not particularly arrested by it; or it is found not always to be a fact, and after all it is well known to be a result in some sense common to all cerebral irritations, nervous or otherwise. M. Vauquelin has discovered in the urine of those patients a particular acid of a rose colour." *Maladies Nerveuses*, tom. ii. p. 278. The author does not recollect to have met a single case of hysteria of which the paroxysms were not followed by this result. He can, however, easily suppose that it may not have been observed in certain forms of the disease, as for example, in cases of hysterical fainting, swoons, etc.; in short, all cases unattended either by spastic rigidities or convulsions. The increased secretion of the kidneys is probably exclusively attributable to the accelerated circulation which we observe to take place in severe cases of hysteric paroxysms. "The real proximate cause of this symptom is always the same, viz. an increased motion, together with some degree of constriction of the secretory vessels of the kidneys. The first augments the quantity, and the other occasions the pale colour of the water. Although it must be owned that this colour is principally owing to the quickness of the secretion of the urine, and of its passage through the bladder, before the finer parts are absorbed, and it has had time to acquire the common smell and taste, as well as the colour of that fluid." *Whytt on Nervous Diseases*, p. 596.

In the absence of such a state of the circulation, and, in some cases, by reason it is possible of other causes, the secretory function of the kidneys has been almost totally suppressed. The author has seen two or three such cases; but not having by him any notes of them, he prefers illustrating the statement by referring to a more absolute example of the same fact than any that has come within his own observation, which the reader will find recorded by M. Pomme, in his *Traité des Affections Vaporeuses des deux Sexes*, p. 168. "Louise Bourbonne, eighteen years of age, of a bilious and a highly-ardent

temperament, was attacked in the month of August 1754, on the accession of her catamenia by a hysterical and convulsive colic. The menstrual blood having found its way into the interior tissue of the uterus, produced there a state of vascular engorgement which gave to the patient a sense of painful tension of the abdomen, accompanied by that of threatened suffocation and other symptoms of ordinary hysteria. She was bled many times both at the arm and foot without any relief. There then supervened a state of extreme restlessness and vigilance; and in the mean time the patient lost her appetite so completely that she was enabled to go for a long time without food. She moreover became so much emaciated, that her friends began to entertain serious fears for her life. On the return of her menstrual period, she exhibited the further symptoms of spitting of blood and severe vomitings. She remained in this state for many months. After the lapse of about eight months, the abdomen became permanently distended, and the sense of suffocation and the other formidable symptoms scarcely ever ceased to torment her.

To the phenomena above enumerated, already constituting a complication of symptoms sufficiently serious, another was added more extraordinary than all the rest; which induced the patient's friends to seek further advice. I examined the case with great attention, and with the special minuteness of inquiry which its extraordinary singularity demanded. The catheter was introduced many times without my ever being able to find a drop of urine in the bladder. This symptom, a unique of its kind, appeared to me to proceed from a deficient fluidity of the blood. The want of sleep and the little nourishment which the patient had taken having greatly contributed to diminish the fluidity of her blood and of her other humours, I considered that I had little more to do than to recommend the use of warm baths. After she had taken these baths about a month she voided on one occasion a quantity of exceedingly offensive excrements, together with some worms and a mass of grumous blood; but she made no urine. She used the warm baths for two entire months. During the same period she took two lavements daily, which were never returned. Her ordinary drink was dilute chicken-broth. She made use also of many laxative and refreshing apozems and oleagenous draughts, and for her aliment the most succulent varieties of food. As it was the summer season, I imagined that the natural perspiration might possibly suffice to carry away the little humidity, which the state of the blood above alluded to might be deemed competent to part with in the form of an excreted fluid. Confounded in my attempts to explain a phenomenon so extraordinary, I requested that some of my professional brethren might be called into consultation. Upon being made acquainted with the particulars of the above statement, my friends one and all seemed disposed to doubt the truth of the facts described. It became therefore necessary to verify them by the proper tests. The subject of the case was accordingly kept within sight, and afterwards locked in a chamber from which there was no way to escape. She was supplied with food and

drink, thus watched and secluded for eight days. The above tests having been rigidly executed, it became a matter of necessity to acknowledge that the suspected statements of the patient and her friends were undeniably true. The reality of the facts asserted being therefore no longer disputed, the patient was advised to continue the use of her baths. But as the heat of the summer became daily more and more ardent, the cutaneous secretions opposed an increasing obstacle to the efficacy of that remedy. I therefore ordered that her bath should in future be cold, in order to enable the skin to exert greater resistance, and compel the fluid part of the blood to discharge itself by the way of the kidneys. This experiment proved eminently successful. Mdlle. Bourbonne had her bowels once more relieved, AND SHE VOIDED URINE. I caused the remedy to be continued for two entire months, and desired that the patient should remain ten hours a day immersed in the water; and to reduce the temperature of the water, instructions were given to throw some pieces of ice into it from time to time; which had the effect of increasing the secretion of urine during the time of immersion, and of diminishing its ardour. By these means I had the satisfaction to see the suspended functions of my fair patient re-established. The cure was gradual, and the circumstances which accompanied it have served to confirm my assurance of the truth of all the essential facts of the case."

Among the distressingly painful affections to which hysterical females are especially subject, is that peculiar sensation of torture which has received the designation of *clavus hystericus*. The sensation is that of a nail being driven into some part of the scalp. It bears something of analogy to neuralgia. Its locality is usually the forehead, not unfrequently verging towards one of the temples. This symptom is to be considered as in a great measure characteristic of hysteria; although in more cases than one the author has met with it among women of feeble and cachectic constitutions, who had never experienced any paroxysms of that disease. It is moreover worthy of observation, that very severe pains of the forehead and temples are not unfrequently produced by the irritation propagated to the nerves of the same parts from decayed teeth. In predisposed subjects it is moreover not at all improbable that the irritation here supposed continued for a great length of time, may eventually prove competent to become an occasional cause of actual hysteria. The true *clavus hystericus* is not often an accompaniment of pregnancy. In one case, however, in the author's practice, of what he certainly considered a genuine example of the hysteric clavus, the pain was greatly relieved by the extraction of three carious teeth, and in about a month afterwards totally and permanently removed by large doses of carbonate of iron.

Analogous to the above pains of the head is another painful affection to which many subjects of hysteria are liable, viz. a pain of the left side below the breast of that side, and extending from the *scrobiculus cordis* towards the heart. There is in this affection a most acute sense of pain without much external ten-

derness and without swelling. "The patient cannot lie on the affected side, and the disease resists for months, sometimes for years, all varieties of treatment. Although we have said that these cases are often connected with uterine irritation, the depraved state of the appetite, occasional sickness, and obstinate sluggishness of the bowels, make us doubt the propriety of laying great stress on the uterine disorder. In these cases, or in most of them, there is some pain of the back, referred to the lowest part; and there is a tenderness of the spine confined to the dorsal region. The pain of the sacrum is a common complaint with females in whom the uterus is unhealthy, and yet who are not hysterical, and who have no tenderness about the dorsal vertebræ; and neither the dorsal tenderness nor the sacral pain is present in many of the examples of the *clavus hystericus*, even when most clearly arising from uterine irritation. These circumstances, which we have very carefully verified, are incompatible with the uterine theory of diseases, which we shall have to notice when speaking of causes of hysteria." Conolly on *Hysteria* in the *Cyclopædia of Practical Medicine*, p. 561. The same excellent writer proceeds to state that the female breast "is in some hysterical cases the seat of much pain, and is also enlarged and hard; so that the patient dreads the occurrence of cancer, although at an age when the practitioner has no apprehension of it. Dr. Darwall mentions a case in his remarks on spinal irritation, where this was combined with tenderness of the three superior dorsal vertebræ, and all the symptoms were relieved by cupping." These painful affections of the breasts are probably dependent in most cases on functionally morbid conditions of the uterus. They usually occur in very young women, and before the developments of the uterine system might be presumed to be completed. They are ordinary attendants on painful menstruation, and also on leucorrhæal profluvia in their simplest forms. "Pains of the limbs," observes Dr. Conolly, "are not unusual, and they are now and then united with an impairment of the motions of the hip or knee, leading to suspicion of a disease of the joints. In very young or precocious females we have seen this curious complaint combined with strange affections of the sight and of the voice; of which one of the most remarkable instances that we remember occurred some years ago in the Edinburgh Infirmary: the subject of it was a girl of thirteen, and the lameness and partial blindness and an appearance of fatuity, all disappeared under a steady application of Dr. Hamilton's purgative treatment." The author is reminded by this latter case of Dr. Conolly of one remarkably similar to it, which occurred some years ago in his own practice at the Dispensary for the Diseases of Women and Children, in Queen-street, Lincoln's Inn Fields. The subject of it had menstruated regularly, but with great difficulty, about half a dozen times. During the menstrual periods she was the victim of most torturing pains of the left side of the head, which occasionally remitted for many hours, and then alternated with an irregular sort of paralytic shaking, together with a slight inclination of it towards the right shoulder. These extraordinary alternations of actions and sensations continued

for about eight days, when they gradually subsided again, to return on the eve of the next monthly period. The poor girl was a patient of the Dispensary for several months before she received any considerable benefit. She was treated at different times by purgative medicines, metallic tonics, including preparations of iron, copper, zinc, and silver, the principal vegetable tonics; some of the narcotics, especially opium and hyoscyamus, mercury in alterative doses, and carried during a period of about three weeks to an extent sufficient to affect the gums, and all without the slightest advantage. The case ultimately yielded to the action of a seton introduced at the nape of the neck, and allowed to discharge freely for several weeks. Miss K., aged fourteen years, menstruated sparingly, and for the first time early in January 1817. The weather was extremely cold. After having been the subject of a scarcely coloured stillicidium from the genitals for about three days, she sustained a shivering of considerable violence, which lasted, as reported by her father, who was a medical gentleman, five-and-thirty minutes. On visiting her on the subsequent day, the author found her the subject of considerable fever, with an intense head-ache, some difficulty of breathing, and a painful sense of constriction of the throat. The pulse was frequent, quick and full. The heart palpitated strongly. In the countenance there was an air of more than usual animation, perhaps something of wildness, and the cheeks were flushed. The bowels had been much confined for many days. On examining with some particularity the state of the head, especially the forehead, in respect to temperature, an obvious strabismus of the left eye presented itself; a circumstance which had not been noticed before. The axes of this young lady's eyes had heretofore been perfectly parallel. Such were the principal features of the case. She was ordered to be bled to fainting, and put forthwith upon a plan of purgative treatment, which was commenced the same evening by the exhibition of a full dose of calomel and jalap. On the next morning the squinting amounted to a considerable deformity, and the pain of the head was described as being intolerable. The pupils of both eyes responded actively, and apparently equally, to the action of light. There was no injection of the vessels of the sclerotica of either eye, and a moderate light was tolerated for a short time without great increase of pain, but its absence was much preferred. On the morning of the third day, there was considerable stupor, and a perceptible excess of temperature of the forehead. In the evening of the same day the patient had a severe fit of hysteria; which was however not repeated till the visit of the fourth day. On that day the hair was taken off, and the head, especially the forehead, exposed to the action of the coldest applications. After some hesitation it was moreover determined to repeat the bleeding. During the night of the same day the patient experienced another paroxysm of hysteria, which lasted, with slight occasional remissions, three hours and a half. On the fifth day the pain of the head assumed the character of a well-marked *clavus hystericus*. The strabismus remained unrelieved. The

patient was now become very fretful upon being disturbed. The fever remained unmitigated for about ten days, when it considerably abated; without, however, being perfectly and satisfactorily subdued. To make short of the account, the *clavus*, the *strabismus*, the hysteric paroxysms, together with a certain amount of febrile disturbance, continued with occasional remissions, exacerbations and alternations, to harass the patient for about three months. At one time the symptoms were exceedingly like those of *hydrocephalus*; whilst at another, and during the whole of the latter month, they were more decidedly and constantly hysterical. As soon as her convalescence was sufficiently advanced to warrant a change of residence, the fair subject of the case was removed to Brighton, where, accompanied by an intimate female relative, she very gradually, that is in the course of about four months, recovered a tolerably good state of health and strength. She might be said to be constitutionally a delicate subject. Since the date of the above attack, she has menstruated rather sparingly and irregularly. She has also sustained, at very distant intervals, some few paroxysms of hysteria. The *strabismus* gradually disappeared whilst she stayed at Brighton, and has never since returned. She sometimes complains of head-aches, which she imputes to disordered states of the digestive organs. These pains of the head, scarcely now amounting to *clavus*, are often observed to alternate with analogous pains of different parts of the trunk of the body. With the exception of aperients, which are required to be taken in pretty ample quantities, she has ceased for some years to take medicines. Whilst in the country, which she visits for about six weeks during every summer, she is said to enjoy a state of comparatively high health; but upon her return again to town, she soon droops and becomes the subject of sick head-aches, depressed spirits, gastric disturbances, pains of her back, left side, etc. Her opportunities for indulgence in the gayeties of life are limited; but she moreover has no relish for them. Her father considers that in her particular case there is certainly no evidence of the existence of an exalted sensibility of the uterine system. *Voyez Villermay des Maladies Nerveuses, tom. i. p. 51.*

In cases of hysteria, complicated with fever, the secerning functions, that even of the kidneys inclusive, have often been performed with great feebleness and irregularity. That was remarkably the case in the instance of the young lady, the subject of the history just recited, whilst the symptoms simulating those of *hydrocephalus* were present. In a case of hysterical syncope, which was protracted over several days in an unmarried lady of fifty years of age, almost all the functions of life were apparently in a state of abeyance. The skin was moderately warm, but dry. The cheeks were flushed; but the natural complexion of the subject was more than ordinarily florid. The eyelids were closed; but the iris retained something of its natural sensibility to the action of light. Consciousness was entirely absent. No impression could be made through the medium of any of the senses. No pulse could be felt at the wrist; nor

could any action of the heart be perceived by the application of the hand to the parietes of the chest. The stethoscope had not then been introduced into the practice of this country. The action of the kidneys was totally suspended. The subject of this case had been brought up with great care, and in conformity to the principles of a somewhat harsh system of disciplinarianism. Destitute of personal attractions, she had arrived at the age above stated without having obtained what is called a settlement in the world. Having survived both her parents, she resided with a married sister, who treated her with great consideration and kindness. Up to the period of the first attack of her disorder, it had not been suspected that she had been the subject of any extraordinary ardour of the sexual passion. After, however, having sustained repeated paroxysms of her malady, it was discovered by her friends that she had been carrying on a clandestine epistolary correspondence with an individual of the other sex, of low condition and habits, to whom her property would have been a large fortune. This part of her history occurred in 1816. She soon afterwards became a proper subject of personal and moral restraint in a lunatic asylum; where, the author believes, she still survives. It is remarkable, that in the subject of the above narrative no indication had ever been given of an exalted sexual life until she arrived at the age of fifty. From the fact of her survival for so many years subsequently, we may infer that, whatever the state of the uterus might have been at the date of her extraordinary swoonings, it would seem exceedingly improbable that it was become in any degree the subject of DISORDERED STRUCTURE.

This may be a suitable opportunity to notice a supposed symptom of hysteria, which the abettors of what has been called the uterine theory of the disease have seldom omitted to mention as a part of its history, viz. the circumstance of an uterine secretion of a mucous SPERMATIC character, being generated during a paroxysm of hysteria, and in such quantity elaborated as to present itself abundantly on the external genital surfaces, accompanied by a sense of voluptuousness, and productive more or less perfectly of a subsidence of the convulsive action. Independent of any particular doctrine as to the seat of the disease, the point here predicated may be admitted to be an occasional result of the extraordinary commotions of the organs in and in the neighbourhood of the pelvis, without its being necessarily ascribable to any operation of the sexual passion; or it might indeed be admitted that in individual constitutions, the passion in question might be roused by the mechanical agitations to which the genital organs are liable during paroxysms of hysteria, without necessarily connecting the passion and the muscular disturbances incident to the malady together in any essential relationship of cause and effect. The subject matter of this statement was probably first propounded by Galen in his Commentary on the Sixth Book of Hippocrates. Charleton, Exercit. Pathol. No. 7, adopts the same opinion. *Mulieres quædam acribus copiosis spermatis igniculis prurientes, desiderio consuescendi cum viris in sæva hysterica pathemata incidunt; hinc tantus in virginibus juxta ac fœminis salacioribus mali*

hysterici est proventus. Founded on this assumption of the cause of the disease, some very extravagant indications of treatment were suggested and acted upon by some of the writers of the last and preceding centuries. It is observed by Sauvage, *Nosolos. Method.* vol. i. p. 589, *Clitoridis titillatio a barbitionis impudico instituta paroxysmum solvebat.* Villermay, *Dict. des Sciences Medicales*, tom. xxiii. p. 242, quotes some statements of Zacutus Lusitanus, for cases illustrative of similar doctrines and practices. “*Titillatione et fervore quodam in utero concitato copiosum semen excernens, ab accessione sæva superstes remansit.*” After which he proceeds to submit the following extraordinary question; viz. “*Num virgo, ut propriam sanitatem recuperet, possit sine peccato, medico id patenti, sui corporis copiam facere.*” *Respons. Negat.* *Sibylla trig. andriana, seu de virginitate tractat.* Henric. Kornmann. *Colon*, 1765, p. 136. On this subject generally the author takes the liberty of observing, that on what he has considered the best possible evidence of testimony, he feels the most perfect assurance that an utero-vaginal secretion is not in all cases a sequence of paroxysms of hysteria. 2. That a sense of voluptuousness is not a constant nor even a frequent attendant upon the peculiar disturbances incident to the same malady. 3. That the notion of a spermatic discharge is founded on an antiquated doctrine, which recognises the existence of a seminal fluid in the female; a doctrine which does not consist with the established facts of a more modern and correct physiology. 4. That the material of the utero-vaginal discharge on which M. L. Villermay has so much insisted in his favourite theory of hysteria, is no more than the ordinary and natural secretion of the mucous surfaces of the organs in question, occasionally, as in many other cases MORBID IN QUANTITY. It may indeed be stated as a general fact, that hysteria is often complicated with profuse leucorrhæal discharges. 5. Hysteria is frequently an accompaniment, and possibly, therefore, in many cases an effect of diseased functional conditions, and even of structural diseases of the internal genitals. Such states are usually accompanied by mucous and leucorrhæal discharges.

That hysteria is in many cases a remote effect of disappointments, jealousies, and other painful states of mind connected with the best affections of the female heart, and ultimately productive of disordered states of the organs which are peculiarly feminine, there can be no good reason to doubt; of which fact indeed almost all tracts and theses on this subject abound with examples. We shall content ourselves with one example from Hoffmann. *Fr. Hoffmann. Opera Omnia Physico-medica*, tom. iii. p. 59, obs. 3. “A virtuous and beautiful young lady, eighteen years of age, of a delicate habit of body, but of good understanding, and possessing much mobility and sprightliness of mind, residing at a short distance from the City, became privately affianced to a handsome young gentleman of her acquaintance, who paid her many visits during an occasional illness with which she was afflicted. Antecedently to the date of that indisposition she had enjoyed good health. From that time forward, however,

she became frequently the subject of many untoward and painful symptoms; and complained of pains of the back, loins, limbs, abdomen, etc. At length she experienced a great prostration of strength with loss of appetite, great constipation, painful tenesmus, retention of urine, etc. To these symptoms supervened faintings, and a sense of strangulation at the fauces. Sometimes she complained of being too hot, at others of being too cold. A principal symptom was a sense of constriction and anxiety at the præcordia, which occasioned a certain amount of difficulty of breathing, and which was scarcely ever absent." The account goes on to establish a hysterical constitution of great interest; but not one perfectly obvious and absolute as to its diagnosis. Many professional opinions were taken on the case. At length, after an immense number of medicines were exhibited without much advantage, carriage exercise in the open air, and a temporary absence from the society of the lover, were recommended by Hoffmann. "After some short time having been devoted to these pursuits," observes our author, "I advised marriage; which having been celebrated, my fair patient soon recovered her strength." She conceived and bore a child within the year. She experienced certain hysterical symptoms during her puerperal confinement; but from the use of certain medicines, which were considered especially adapted to her case, she soon got better of them. She is at present in the possession of very good health. "Such," adds the same writer, "is the power of some of the more permanent and dominant affections of the mind to disturb the natural functions, and even the whole economy of the movements of the body." "*Non solum in animum impetum facit amor; verum et in corpus sæpenumero tyrannidem exercet vigiliis, curis, macie, dolore, tabitudine et mille aliis affectibus lethalem noxam inferentibus, corpus vexat.*" *Plato de Amore*. Of the effects of the passion alluded to by Plato in the passage just quoted on the bodily functions of women, the reader may consult an eloquent description by M. L. Villermay, *Maladies Nerveuses*, vol. i. p. 46. After some general observations on the influences of diverse states of mind in the production of hysteria, he proceeds to remark especially, "THAT THE MOST FREQUENT, AND THE MOST POWERFUL, AND THE MOST DURABLE of all the mental causes of hysteria is the sentiment of love, more particularly if the party be in a situation to feel herself obliged to conceal it. When, on the other hand, an avowal of partiality is followed by a suitable return; when, above all things, the hope of a legitimate union, of a happy accomplishment of ardent vows, is permitted to be confidently entertained, we may always observe a diminution of intensity of the symptoms incident to the disease, as well as of the frequency of its paroxysms. Its accessions, on the other hand, acquire a new vigour when the darling hopes here spoken of are contravened, when circumstances arise to produce jealousies, doubts and despair; or even when the earnestly anticipated alliance is put off for an indefinite period of time.

To return to special complications of hysteria, with other diseases. It might naturally be expected to be often proximately associated with other convulsive

affections. Hence its occasional association with croup. *Cyclopædia of Practical Medicine*, Part xi. p. 564. Spasmodic Asthma. Bucker, quoted by M. Villemay *Maladies Nerveuses*, tom. i. p. 94. Hysterical hiccup, spasmodic exclamations, and of hysteric dysphagia. Bright's *Reports of Medical Cases*, etc. vol. ii. p. 457, case 211, 212, and 216. To the same class of cases we may be permitted to add some other remarkable symptoms which have sometimes been associated with the hysteric constitution; such as certain periodical palpitations of the heart, as exemplified in the peculiar convulsive fits of Zetland; Whytt's *Works on the Causes of Nervous Disorders*, p. 582; some forms of chorea; St. Viti; the hydrophobia mentioned by Dr. Conolly, *Cyclopædia of Practical Medicine*, art. Hysteria; and especially all complications of hysteria with any forms of catalepsy and epilepsy, with which it has been seen associated. The reader will find himself interested by the brief description given of the convulsive fits of Zetland by Dr. Whytt. "There is a disease," observes that very practical writer, "very common in the island of Zetland, which is known there by the name of the CONVULSIVE FITS. It begins with a violent palpitation of the heart; soon after which the patients fall to the ground, unless they are supported. Their arms and legs are alternately contracted and relaxed; and in some cases, their joints become so rigid, that they cannot be bent. Their respiration seems to be difficult, and they cry terribly while the fit lasts, which is generally less than a quarter of an hour; although in some rare cases it has continued above an hour. This disorder seldom attacks married women; but young women, and even girls of twelve, and even of ten years of age, are liable to it. Some boys, and two young men in the island, have also been affected with it. In the church, or other public meetings, as soon as any one is seized, all such as have been formerly subject to the distemper are attacked with it; which often occasions great disturbance; and some who never had these fits have been affected by them upon seeing, or even hearing, the noise of such as are seized with them. This disease does not seem to impair the health of the patients; for the young women subject to it are generally as strong, and in other respects as healthy, as any in the island." Baglivi cites the case of a young man of Dalmatia, who, from looking at a person in a fit of epilepsy, became himself the subject of similar convulsions.

It is not an uncommon incident in public hospitals to see some of the younger female patients falling successively into fits of hysteria in consequence of seeing their immediate neighbours of the same wards similarly affected. The best illustration of this curious example of morbid sympathy is that which we find recorded by Dr. Abr. Kaau Boerhaave, *Impet. faciens Hippocrati dictum*, § 406, of the remarkable cases of this kind which occurred in the practice of his more celebrated uncle, the learned Dr. Boerhaave, in the poor's-house at Haerlem. "In the poor's-house in the city of Haerlem, a young girl greatly terrified fell into a violently convulsive disease, which returned in successive paroxysms. One of the spectators and assistants, perhaps the most devoted to

the performance of her friendly offices to the patient, was seized by the same disease. On the following day another was seized in the same way, and presently a third and a fourth, and at length nearly all the occupants of the same ward, boys as well as girls. A most miserable state, observes the learned reporter of the scene! One was seized here, a boy; another was seized there, a young female. The one observed the fate of the other, and all, or nearly all, became prostrate together. The most skilful physicians had recourse to the exhibition of the most approved antiepileptic medicines in vain. It was at length determined to seek the assistance of the celebrated Boerhaave, who, pitying the unhappy lot of the pauper establishment at Haerlem, was induced to go over to pay it a visit. On examining into the matter, he observed, that on the invasion of a paroxysm of the disease in the case of one of the patients, many others were immediately seized with similar convulsions. The best remedies having already been exhibited in vain by very intelligent practitioners, who had very duly recognised the extraordinary influence which the imagination seemed to have exerted in propagating the malady from one person to another; that eminent physician nevertheless believed, that by restraining the operation of that influence, he might still be able to obtain a cure, and he did obtain a cure. The magistrates [of the city having been privately advised of his intention, and being all assembled, he ordered portable furnaces to be placed in different parts of the gallery, and strong fires to be kindled in them, and to be well fed and kept up by the most rapidly burning firewood. Into these several furnaces he then ordered iron hooks of a particular shape to be thrust in order to be made red hot. When all was ready, he spoke loudly to the following effect: ‘Since all other means have fallen short of our object, I know of only one more remedy to propose, which, however, I expect will prove an infallible one, viz. that of applying one of these red hot implements to the naked arm and carried down to the bone of the first young man or woman who shall be seized with a paroxysm of this cruel disease.’ As the whole of this address was enunciated with the utmost gravity, the inmates of the establishment were one and all much terrified, and stood aghast at the idea of a remedy so barbarous. The stronger impression, the fear of the pain of being burnt, prevailed over the influence of the extraordinary sympathy which had hitherto been competent to propagate the disease; and no person, either male or female, became on that occasion the subject of a paroxysm.”

Constitutional changes and strong physical impressions have not unfrequently the effect of suspending the action of what we call the hysterical constitution. Alibert reports a case of alternation of hysteric symptoms with a catarrhal fever. Louyer Villermay, tom. i. p. 94. It is a very common remark in marshy districts, that hysterical girls are almost always relieved of their fits upon their becoming subjects of intermittent fevers. A hysterical woman, soon after a puerperal confinement, became subject of an abscess, which terminated in a sinuous ulcer. As long as the ulcer continued to discharge, which occupied a

period of about seven months, the patient remained unmolested by her fits. Subsequently to that result, however, the old malady returned in all its force. Reil reports a case of fracture in a hysterical subject, and observes, that as long as the ends of the fractured bone remained ununited, the patient experienced no paroxysm of her complaint, and subjoins his opinion that in the case in question there was no good reason for supposing the existence of any kind of metastasis. Reil, *Medicina Clinica*, p. 179. It has, moreover, been very commonly observed, that hysteria is usually totally suspended and in all cases greatly mitigated during the presence of pregnancy. This fact constitutes, indeed, the substance of a well-known aphorism of Hippocrates. The following case from Hoffmann is selected for an illustration of the same point: "A woman of about thirty years of age sustained an abortion, which was followed by the escape from the uterus of a formidable mass of concremented blood. After the lapse of a twelvemonth from the date of that event, she became rather suddenly the subject of violent convulsions, which was attributed to the use of improper food, and also to catching cold during a catamenial period. During her paroxysms, the lower extremities, the feet especially, were affected by vehement spasms. She vociferated loudly, gnashed her teeth, etc. These paroxysms returned periodically, and, indeed, concurrently with the returns of the menstrual function. Their invasion was always sudden and without being preceded by any premonitory symptoms. At length, however, the fair patient found herself pregnant. During the whole period of her gestation, she enjoyed a perfect immunity from her convulsive disease. At the completion of her pregnancy, she became the happy mother of a living child. During the first days of her convalescence, she had a good lochial discharge. On the tenth, however, this essential profluvium became small in quantity and vitiated in quality. It must, moreover, be added, that the bowels had been in a very torpid state during at least the first six days after the patient's delivery. Subsequently to these results, there supervened a sense of pain and tension, as also of giddiness in the head, together with much flatulence and violent griping pains of the lower parts of the abdomen. The patient gradually lost her rest at nights and also her appetite, and at length she again became the subject of her former convulsive disease," etc. Hoffmann, *de Malo Hysterico*, tom. iii. obs. vi. p. 60.

Physicians have sometimes found it difficult to establish a perfect diagnosis between hysteria and epilepsy, and hence they have occasionally attached to the former, something of the character of the latter disease. Epileptics usually foam at the mouth, become the subjects of their convulsions without being apprised of their danger by any premonitory indications, and during their paroxysms sustain a total loss of consciousness. When fits of hysteria are observed to approximate in their symptoms to any of these characteristic attributes of epilepsy, the malady has frequently been designated epileptiform, and by certain abettors of the uterine theory of hysteria, UTERINE EPILEPSY.

Louyer Villermay, *Malad. Nerv.* p. 80, 81. A widow, aged thirty-one years, of a dry ardent temperament, much given to a sedentary life, sustained a derangement of her catamenial function, and abandoned herself to an excessive use of wine. On one occasion she fell suddenly on the floor, and became as quickly the subject of extremely violent convulsions, and of foaming at the mouth. On recovering her consciousness, she stated that she retained no recollection of any thing which might have occurred during the paroxysm. She was attacked twice within a month by fits of the same formidable character. Many medicines were employed without success. A second marriage was therefore advised to the ardent widow. She made choice of a young and amorous husband, was soon afterwards pregnant, and eventually perfectly recovered her health.

In an explanatory notice on the above case, which he quotes from Lanzonius, M. L. Villermay makes the following singular application of it to his own theory of hysteria: "In this case we recognise the ordinary cause of hysteria, viz. forced continence, and not fright nor any other influence productive of lesion of the brain, the source so constantly of epileptic affections. Besides, we here see the malady yield to the gratification of the sexual passion, which indeed has almost always the effect of dissipating uterine neuroses. It must be allowed that epilepsy is very rarely cured so easily as in the case just sketched; whence I feel myself disposed to conclude, notwithstanding the presence of certain symptoms more usually characteristic of epilepsy, that the case of the young widow, the subject of the present narrative, was really one of hysteria, the consequence in fact of her widowhood; that she was restored to health by the results of her second marriage, which put an end to her previous condition of forced continence; and that therefore the case might be more accurately characterized by the designation of epileptiform hysteria than by that of uterine epilepsy."

In confirmation of the point here predicated, our eager theorist quotes two rather remarkable facts from the German *Ephemerides*, which would appear more directly intended to illustrate the effects of incontinence. A young woman, who had been an epileptic for ten years, abandoned herself, on the recommendation of an empiric, to an unrestrained indulgence in acts of incontinence with a soldier, and was cured of her complaint. The soldier in process of time was ordered to depart from his then quarters to a distant military encampment. The consequence was that the young woman fell into a delirious atrophy, a species of nymphomania, and died. *Ephem. Germ.* dec. iii. an. 1. p. 29. obs. 12.

This latter complaint supervenes much more frequently upon hysteria than upon epilepsy, and its seat which is common to it with hysteria would lead us to the opinion that the patient in this case was a subject not of epilepsy, as had been supposed, but of a uterine neurosis, which not only yielded in the first instance to the effects of a sexual congress, but which continued subsequently to give way to the use of the same means as long as those means remained accessible.

The second case quoted by M. Villermay, in support of his favourite doctrine, *Ephemerid. Germanic. dec. i. an. 1, obs. 86*, is that of a young lady represented to have become the subject of epilepsy, in consequence of suppression of the menses. Her physician recommended marriage. She soon afterwards became pregnant, and after a happy delivery recovered a perfect state of health.

The history which forms the subject of Hoffmann's ninth case of epilepsy, see his chapter on that subject, tom. iii. sect 1, cap. 1, p. 20, has also, with some plausibility, been referred to as an example of epileptiform hysteria not absolutely unconnected with certain conditions of the uterine system. The subject of the observation was a married woman, aged thirty, without a family, although endowed with strong sexual passions. She had the misfortune to lose her husband, which involved her not only in deep sorrow but absolutely in paroxysms of the wildest consternation. That event occurred when she was the subject of a menstrual period, and was followed by a sudden suppression. She entirely lost her appetite and also her sleep, and at length in a great measure even her reason. *Sed verba sine ordine loqui cœpit*. To these symptoms succeeded a convulsive action of some of the muscles of her face, and eventually convulsions of great severity of other parts of the body; which yielded not to bleeding nor to any other remedies. After the lapse, however, of some time, and on the accession, and possibly through the influence, of a miliary fever, the evil was partially mitigated. Nevertheless it continued to harass her, being subject from time to time to great exacerbations, which indeed was especially observable during the menstrual periods; when, moreover, the patient was usually agitated by such tempestuous mental disturbances as were considered to border on fury. At this stage of her malady she was recommended to try the effects of warm and acidulated baths; and with that view, and also for change of air, she visited several different places, where she likewise took the advice of many different physicians. By such means and movements the disorder was still further mitigated, but certainly not subdued. That result was reserved for the influence of a second marriage, by which, indeed, it was most happily and perfectly accomplished. "*Optimum autem auxilium ex matrimonio redundavit; quippe quo libido exstinguitur, menses suppressi revocantur, ærumnæ atque sollicitudines depelluntur et toti corpori ingens accedit mutatio.*" Fr. Hoffmann, *Epicrisi loc. citat.*

Miss M., aged twenty-five, conceived a strong passion for a young gentleman resident in her neighbourhood, who had paid her some trifling and dubious attentions. On the marriage of the same gentleman to another young lady, she became the subject of a violent conflict of the emotions ordinarily attendant on the issues of unprosperous love, accompanied by a sudden suppression of the catamenial function. On these results, supervened in rapid succession, the greater number of symptoms which constitute chlorosis, to which were likewise added, at intervals not sufficiently periodical to be deemed absolutely monthly, paroxysms of convulsions of great severity. At the moment of accession of her fits, the patient

usually uttered a loud and a horribly unfeminine shriek, and then instantly lost all consciousness and power of volition. The paroxysms rarely exceeded fifteen minutes in duration, whilst also in other respects they presented the pathognomonic characters of fits of epilepsy very much more decidedly than of those of hysteria. Time, by softening the poignancy of the moral part of the malady in this case, exerted also a languid, but nevertheless a positive eventual influence in mitigating the severity of some of its symptoms more immediately physical; for after the lapse of about four years from the commencement of the amenorrhea, nature seemed disposed to make a strong effort for the re-establishment of the long-suspended menstrual function. By a vigorous use of tonic and alterative medicines, with the occasional interposition of active aperients, the functions of digestion and nutrition became considerably improved, and the patient gradually recovered a tolerably moderate share of her former health and spirits. Her convulsive paroxysms moreover recurred with less frequency, but still abated not in violence, nor underwent any change as to their epileptiform character. Whilst the case was presenting a gradually improving aspect, an event occurred in the domestic history of its fair subject, which we may well suppose to have exerted no small influence on its ulterior issues. Miss M. received an advantageous offer of marriage. Whilst the treaty for that object was being discussed, she very properly felt it her duty to make the amplest disclosures, as to the past and the then actual state of her health. But her communications furnishing, as they really did, an evidence of great frankness and honesty, were also, in other respects, received by her lover with so much favourableness of construction, that they were not allowed even for one day to form an impediment to the proposed union. On the eve of the day of her marriage, as she afterwards reported to the author, she experienced a paroxysm of her malady of extreme violence; a circumstance which she imputed to excessive personal fatigue. It is a fact, therefore, to be especially noted, THAT SHE CONTINUED TO BE THE SUBJECT OF HER DISORDER TO WITHIN THIRTY HOURS OF THE CONSUMMATION OF HER MARRIAGE; whereas, during the whole of her subsequently married life, including a period of about thirteen years and a half, during which she became the mother of four living children, she never encountered a single paroxysm of her complaint. During the same series of years, it should be further observed, Mrs. P. enjoyed a moderately good share of health and spirits and domestic happiness, although during the much greater part of that period she continued to be the subject of considerable disturbances and irregularities of her uterine functions. Her husband died when she was about forty-three years of age. Having entertained both great respect and a sincere affection for him, his death could not fail to produce a considerable impression upon her spirits; but inasmuch as for several months before it happened, she had been led to anticipate the ultimate certainty of that event, she seemed to sustain her bereavement, when it really occurred, with quite as much fortitude and submission to the will of Providence, as we usually see practised on such occasions.

This satisfactory state of things was, however, destined to be but of short duration; for in about six or eight weeks after her husband's interment, she was observed very sensibly to droop, to lose her spirits and her appetite, to relax in her wonted attentions to her numerous duties and interests, and to retire frequently to the solitude of her own chamber, where it was known that she gave herself up to an unlimited indulgence in sorrow. In the mean time, her general health, which never had been robust, yielded considerably to the depressing influences to which she was now exposed, and she became the subject, increasingly from week to week, of a profuse leucorrhœal profluvium. The natural produce of the menstrual function, of which the tribute had seldom been furnished quite regularly as to periods, sustained also so great a diminution of its quantity, that it scarcely sufficed to indicate the time or to determine the fact of its presence. In the midst of these unhappy results, and in the fifth month of her widowhood, Mrs. P. again became the subject of her former distressing malady, when, moreover, it was observed to present very much of the epileptiform character by which it had been distinguished during its earlier visitation. The function of menstruation was never afterwards re-established; whilst the convulsive malady continued to harass its victim more and more, as she year after year made further advances towards her climacteric period of life. In her fiftieth year she became the subject of an encysted enlargement of the left ovary, which destroyed her in the course of about a year and a half from its supposed commencement.

On inspection of the body after death, the uterus was found inflamed, partially sphacelated, and rather extensively adherent to the diseased ovary. The orifice of that organ, its vaginal portion, and the passage through its cervix, presented no unusual appearance. Those parts were examined after the whole of it had been carefully removed from its connexions. But the cavity of its body was seen to contain about half an ounce of a very fœtid muco-purulent fluid, furnished it is probable by six or eight carunculous projections of a hardish consistence, of about the size of large pin-heads, and having a fissured warty appearance, which occupied the posterior mucous surface of that part of the organ. On cutting through its right lateral parietes, the scalpel came in contact with two or three osseo-calcareous bodies of a roundish form, very smooth as to their surfaces and of about the size of marrow-peas. They were severally found imbedded in separated cysts, whose surfaces were moist like those of cartilages of joints, of a faint reddish hue, and just large enough to contain each its proper charge. Appended rather loosely to the same side of the uterus and projecting from it in a direction towards the costa of the right ileum, where it was seen, as if naturally, reposing, there was an adventitious membranous pouch of a cylindrical elongated form, of which the actual length was about seven inches, and the diameter equal to that of a moderately distended colon, rounded and closed at both ends, and containing something more than a pint of a limpid transparent fluid. The left ovary consisted, as is usual

in such cases, of innumerable cysts of different sizes, and containing respectively fluids of many different colours and degrees of consistence. The cavity of the abdomen was, moreover, charged with ascitic fluid to the amount of about seven or eight quarts. The liver was partially tuberculated. The thoracic organs were healthy, with the exception of two or three small tubercles in the left lung. The contents of the skull were very carefully examined; but nothing was discovered which seemed calculated to throw much light upon the characteristic peculiarities of the case, unless it might be A MORE THAN ORDINARY THICKNESS AND OPACITY OF A LEFT PARIETAL PORTION OF THE DURA MATER. The cerebral substance immediately corresponding to the affected portion of its meningeal covering, appeared, however, quite healthy in its several attributes of structure, consistence, and colour. All the ventricles of the brain, as well as the theca spinalis, were indeed found charged with considerable quantities of an aqueous colourless fluid. But this was probably an exclusive result of the very exhausted and cachectic condition of the patient during the latter days of her life. If we assume the correctness of this latter fact in the pathology of the case just narrated, it will pretty obviously follow, 1st, that the patient's malady must originally have been an example of hysteria, in some degree epilepticised, perhaps, by the intensity of its occasional cause, co-operating possibly with a more than ordinary susceptibility, or with some predominant peculiarity of the fair subject's mind; 2ndly, that it was either directly or indirectly an effect of the severe disappointment which was sustained by the good lady in the earlier part of her life; and, 3dly, that whether we suppose the disorder to have been a case of hysteria or one of epilepsy, or an unusual complication of certain symptoms peculiar in ordinary cases to each of these forms of neuroses, it seems to be a fact which we may all but absolutely take for granted, that the physical consequences of its establishment in the habit were principally, if not exclusively, functionally and structurally affections of the uterine system. Subsequently, as we have seen, to the disappointment of her earliest hopes, the patient never menstruated with perfect regularity; although, indeed, that important function was, upon the whole, sufficiently well performed to enable her repeatedly to become a mother. How far the state of marriage might have exerted a salubrious influence towards sustaining in the proper organs a certain amount of functional capacity for its performance, it would seem scarcely possible for us to predicate. But this much we know, for it is an essential fact of the history itself, viz. that the subject of the above narrative very soon ceased to menstruate after she ceased to enjoy the privileges of the state of marriage; and that almost immediately after she ceased to menstruate, she again relapsed into the terrible malady of the earlier part of her life.

Several examples of hysteria of an epileptiform character are given by Hoffmann, both in his systematic treatise *De Malo Hysterico*, vide vol. iii. obs. 1, p. 58 et 9, p. 61, and in his *Medical Consultations and Responses*, vol. iii. cent. 1, cas. 9, p. 10, et cent. 2 et 3. cas. 50. The first of these latter histories the

reader should be apprized contains a very interesting account of a hysterico-caducous disorder, of which the reporter's own wife was the subject. M.orget, *Maladies Nerveuses*, vol. ii. p. 285, instances amongst the events of hysteria, that it sometimes degenerates into perfect epilepsy. There are innumerable examples on record of its being accompanied with hypochondriasis and melancholia: but of all the complications of this malady with certain morbid states of functions not essentially constituent attributes of the disease, the most formidable are perhaps those which are accompanied by a total and long-protracted abolition of consciousness. These very remarkable forms of neuroses have been classed by Villermay under the head of what he calls hysteria of the third degree, which indeed he makes to include, without sufficient notice of a distinction between them, two very different varieties of functional states and complications; viz. that of hysteria complicated with a specific form of syncope, one especially characterized by an apparent suspension of the functions of the heart and lungs; and secondly, that of hysteria, accompanied or followed by symptoms of coma or apoplexy, symptoms indeed strongly simulating, if not actually to be identified with, the ordinary effects of intense cerebral congestion. The case briefly sketched in p. 417, may be considered as an example of the first variety of the complications here alluded to. The greater number of cases of protracted syncope, those especially which have been distinguished in our own language by the term *TRANCE*, and of which several examples are recorded by writers both of ancient and modern times, are no doubt to be referred to the same obscure section of pathology. We are indebted to Pliny the naturalist for one of the earliest recorded cases of this very curious and alarming form of syncope. The author reports the fact on the authority of M. Villermay, vol. i. p. 64. The patient continued seven days in a state of apparent death. Another case of the same kind is referred to by Lansici, viz. that of a young woman who was roused into a state of consciousness by the celebration of her own funeral obsequies.

It has been said of Asclepiades, that happening to meet the funeral of a lady, he went up to the supposed dead body of the deceased, and discovered that she was not actually dead. Cases of the same description are recorded by Ambrose Paré, Raulin, Lepois, Van Helmont, Senac, and many others. Villermay, loc. citat. *De Sauvages Nosolog. Method.* tom. i. p. 84, 4to. Amstelodam. 1768. It is mentioned in the biography of Vesalius, that the body of a woman, who was supposed to have been really dead, but who in fact had only been the subject for several days of death's prototype, the extraordinary variety of syncope under consideration, was taken to the dissecting room of that eminent anatomist for the purpose of dissection, and that when the first stroke of the scalpel was made into a part of the integument, the supposed dead body uttered a loud shriek in complaint of the pain which was being inflicted upon it. To conclude our references on this subject, we shall subjoin the sketch of one more case of the same extraordinary disorder, viz. that of the lady of an English colonel of the

name of Russell, quoted by Villermay from the *Journal des Sçavans* for 1745. The author regrets that he has not been able to trace this anglo-gallic narrative to its original and more authentic source, which probably was exclusively English. Its principal facts were as follows. Its subject was so tenderly beloved by her husband, that he could not be persuaded that she was dead. He therefore allowed her to remain stretched on the bed where she was supposed to have breathed her last for a much longer time than was prescribed by the custom of the country. On its being at length represented to him that it was full time to have the body interred, he replied in strong language, that he would not give his consent to any such measure. In this way eight days elapsed without the body giving any indication even of a tendency to decomposition; but at the same time without manifesting the least sign of life. What then must have been the surprise of the husband, whilst holding in his own hand that of his beloved wife, and bathing it with his tears, when he found that at the sound of the bells of a neighbouring church, his lifeless companion was suddenly roused as from an ordinary sleep, that she sat up in her bed, and said, "There! that is the last peal of the bells, let us go, it is full time to set off!" The other variety of complication of hysteria with protracted abolition of sense and consciousness, is that which is presumed to depend as suggested above upon intense cerebral congestion. We have already seen that this convulsive affection has been known to lapse into epilepsy, and it is perfectly well known and universally believed, that epilepsy is a cerebral disease, of which the most frequent termination is in fatal apoplexy. In illustration of this point, the reader is referred to almost all the histories of epileptics, and they are very numerous, recorded in Bonetus' *Sepulchretum*, Genév. edit. lib. ii. cap. 29, p. 807. It is probably in consequence of confounding the ordinary forms of hysteria with its less frequent epileptiform varieties, and perhaps with epilepsy itself, that the hysteric passion is so often represented by the older writers as a fatal disease. That such however has occasionally been its actual termination there is no room to doubt, although indeed this part of its pathology has not been adequately illustrated by dissections. Willis *Opera omnia*, cap. 10. De Morb. Convulsiv. p. 77 et 78. M. Georget, vol. ii. p. 285. When women have died of simple hysteria, i. e. hysteria considered nosologically as an idiopathic disease, the fatal event must probably be the result either of asphyxia or of cerebral congestion. On this subject also dissections are very scantily recorded. The following may be produced as a specimen of the value of such as actually exist. "A young woman, aged fifteen, presented the usual indications of ripened puberty. Her temperament was sanguineous; her figure was small, but well formed. She was active, alert, and cheerful; and she led the life of a domestic. When she was eight years old, she experienced an attack of convulsions, of which however she sustained no subsequent attacks until she arrived at the age of fourteen. She had then menstruated regularly, and in sufficient quantity, for about eight months; but pending her eighth period she became suppressed, in con-

sequence of a fright. Nevertheless no great inconvenience was experienced at the time. On the next return of the function, however, the menstrual discharge presented itself only for a short time and in minute quantity, and was then immediately arrested. From that time forward she complained of feeling a general indisposition, accompanied by a sense of numbness in her lower extremities, thirst, and especially by expressions of concern for the interests of her situation as a servant. On the second day her case was aggravated towards evening by a painful sense of strangulation, such as might be produced by a tightly-drawn neckband or collar, and the respiration was consequently embarrassed. The hypogastric region became the seat of a marked fulness, and the extremities as well as the trunk of the body were repeatedly seized with convulsive movements. A strong spasmodic constriction of the pharynx prevented the patient from swallowing any liquid, although she was induced by much thirst to make strong and repeated efforts to accomplish that object. During this paroxysm she voided a great quantity of clear and limpid urine. On the third day, about mid-day, she was taken to the Hôtel-Dieu. Her sense of suffocation and her anxiety were then become very distressing; and she cried bitterly, complaining that she constantly felt as if being strangled. Her voice in the mean time was but little changed, and she moreover retained her reasoning faculties, and answered correctly to all the questions which were put to her. The convulsive movements of all the parts affected continued unmitigated. The abdomen was alternately elevated and depressed to a very remarkable degree. The poor patient constantly carried her hand to her neck, as if to remove the fatal collar. She constantly asked for something to drink, but her efforts to swallow were altogether ineffectual, the attempts in the mean time being extremely painful to her. Her difficulty of breathing was also undescribably distressing to her. She was every moment threatened with suffocation. Her pulse was contracted, hard, frequent, and very irregular. The movements of the heart could be felt to present similar characters, and they were perceptible to the touch as well as to view. The skin was of a reddish hue, and moist with perspiration. The unfortunate patient died in about six hours after her reception into the hospital, in the midst of a violent exacerbation of her disorder. She complained of having been strangled to the very last moment of her life.

By an inconceivable fatality, the poor creature, the subject of the above case, received no manner of professional assistance during any part of the three days she was the subject of her horrible malady. It is fondly presumed that an instance of such neglect could not have happened in an English hospital.

INSPECTION OF THE BODY AFTER DEATH.—The abdomen was observed to be slightly tumified. The pharynx, œsophagus, and stomach, were entirely empty, and presented no peculiarity of appearance, excepting perhaps that the stomach seemed more than usually firm and contracted. The left cavities of the heart were totally void of blood; and such was also the state of all its arteries and the pulmonary veins, whilst on the contrary the right cavities of

the same organ, and especially its auricle, were, enormously charged with black and partially-coagulated blood; as was also the whole system of the pulmonary artery. Within the substance of the encephalon, including the medulla oblongata and their investing membranes, and also the nerves more immediately produced from them, there was to be traced no appreciable departure from natural appearance and structure. The veins of the cerebrum and the sinuses of the dura mater were charged with a great quantity of blood. The ganglions of the trisplanchnic nerve were found, the one a little larger and the other somewhat smaller than usual. The viscera, of which no mention is made, presented a natural appearance. The external genitals were those of a virgin. The clitoris and uterus furnished no room for remark. The ovaries were of large size and of considerable firmness of texture. They were covered by a strong albugineous membrane, variegated at different points by the usual vesicular transparencies. The interior of these bodies contained indeed a great many vesiculæ, which were gorged abundantly with fluid mucus." Villermay, *Maladies Nerveuses*, tom. ii. p. 70. The fatal event in the above case was the effect no doubt of asphyxia, of which the cause was an extreme constriction of the larynx, such as eventually produced a mortal suspension of the function of respiration. The poor victim was obviously sacrificed to the indolence and ignorance of the people about her. This is the only well-attested case on record, as far as the author knows, of death from simple hysteria, attempted to be accounted for by a post-mortem examination. But what does it teach us? Why, NOTHING, beyond two or three negative facts of no immediate use to us to know; viz. 1st, That hysteria may exist without any APPRECIABLE change of structure in any part of the cerebral system on the one hand, or in any one of the organs, which taken together constitute the uterine system, on the other. 2ndly, That we are therefore not yet acquainted with any cause cognizable by the morbid anatomist, with the efficiency of which we can connect any plausible explanation of the phenomena of this malady. And, 3rdly, That the dissections of Willis, as already referred to, and those of Vesalius, lib. v. *De Human. Corp. Fabric.* cap. 15; of Riolanus, *Anthropolog.* lib. ii. p. 35; of Binninger, cent. 2. obs. 90; of Diemerbroek, *Anat.* lib. i. cap. 24; of Blancard, *Anatomie Pratique*, obs. 55; and even of Morgagni, as quoted by Villermay, tom. i. p. 145, can only be received so far as they afford us proofs of certain morbid accompaniments, such as possibly may in some cases be effects of the morbid influences of the disease, but certainly not in any one instance as revealing to us the efficient cause or causes of the hysteric passion.

The principal difficulty attendant on the DIAGNOSIS of hysteria is the fact of its being frequently accompanied by co-existing symptoms of other diseases. Simple hysteria, when it presents itself in its ordinary form, is so peculiar and characteristic, that it cannot well be confounded with any other disease, even of the class neuroses. Some writers have indeed taken very useless pains to distinguish hysteria from HYPOCHONDRIASIS. Even the observant Sydenham

fancied that he recognised an intimate analogy between the two maladies. This analogy was probably supplied to that eminent individual by his theoretical assumption of their originating in a common cause, viz. in a certain morbid state of the cerebral and nervous system. But inasmuch as even at the present day we have not arrived at any positive knowledge either of the cause of one or the other malady, it is a matter of obvious inference that the whole theoretical structure must fall to the ground. If, on the other hand, we attend to the symptoms of the two diseases, we can scarcely discover any attributes which they possess in common. It may indeed be said that the subjects of each are liable to certain peculiarities and variations of spirits: but even in this particular, there is an obvious difference between the vapours, as they have been called, of hypochondriacs, and the unequal spirits, sometimes high and at other times low, of the subjects of hysteria. There are, moreover, certain symptoms which are especially pathognomonic of the hysteric passion; viz. alternations of fits of crying and laughing, convulsive actions of muscles, especially those about the throat, the symptom called the globus hystericus, that of the clavus hystericus, and many others which it would be too tedious to enumerate, but which are essentially absent in hypochondriasis. In some respects it might indeed be correctly stated, that some of the symptoms of the one disease are found complicated with certain characteristic attributes of the other. Many hysterical females, for example, are liable to very great disturbances of their gastric functions, whereas disorders of those functions are perhaps upon the whole more frequently and essentially a part of the history of hypochondriasis.

The author has seen two cases of ST. VITUS'S DANCE, of which the phenomena very much resembled those of hysteria; and in one of them there were certainly present some symptoms essentially pathognomonic of both diseases. The subject was a young lady whose period of puberty was just developed. She had menstruated sparingly two or three times. The spasmodic actions of the muscles of the arms were strikingly such as we meet with in St. Vitus's dance, as were also the convulsive twitchings of the muscles of the face; but together with those symptoms the patient was not a little annoyed by one affection peculiarly hysterical, viz. a sense of painful constriction of the muscles of the throat, which had the effect of very greatly disturbing her respiration. Being a sanguineous, plethoric subject she was bled freely, and afterwards smartly and repeatedly purged, and was thus cured of both her complaints.

The diagnosis between hysteria and SYNCOPE admits of a pretty easy explanation. Syncope consists exclusively in a suspension of the action of the heart, from whatever cause arising, and as such may become a symptom OR A PART OF HYSTERIA; but not properly that disease itself. When it occurs as a principal symptom of a hysteric paroxysm, the case may deserve the designation of hysterical syncope; but syncope is often known to exist totally independently of any connexion with a hysterical diathesis.

Hysteria may usually be distinguished from APOPLEXY by their respectively

pathognomonic symptoms. In most cases of hysteria the patient retains a certain degree of consciousness and of susceptibility to impressions; whereas in all cases of confirmed apoplexy there is a total abolition of these attributes. After a paroxysm of hysteria the patient will frequently find herself competent to recollect many of the incidents which had occurred, and been especially urged upon her attention during the fit; whereas the subject of apoplexy has no cognizance whatever of any event or circumstance which had taken place during the lethargic state incident to that disease. In a case of apoplexy, the breathing is especially characterized by a difficulty which the air encounters in its passage through the fauces and nostrils, to which the descriptive epithet of stertorous is usually applied; but this difficulty, or rather peculiarity, of respiration, is never a symptom of simple hysteria; the impediment to that function, when any difficulty is experienced, being then occasioned by a morbid reduction of capacity of the laryngeal and pulmonary passages, the effect of spastic rigidities and contractions of their respective muscles. Again, in apoplexy the face is swollen and of a purple hue, from an extraordinary turgescence of its blood-vessels; whereas in hysteria it is in most cases, though not always, more than ordinarily pale and contracted.

EPILEPSY is perhaps with more difficulty distinguished from hysteria than any other disease. The principal distinctions are, that epilepsy attacks its victims suddenly, and without warning; whereas in hysteria the patient can very frequently anticipate, and consequently prepare herself for, the invasion of a paroxysm of her complaint; that a fit of epilepsy is accompanied by a total abolition of consciousness, whilst in paroxysms of hysteria the patients are usually conscious of their own sufferings, and cognizant of what is said and done in their presence; that in epilepsy the convulsions are more violent, producing greater distortions of the features, and more universal, and therefore affecting a greater number of muscles than they do in hysteria; that a fit of epilepsy is usually of comparatively short duration, seldom exceeding that of a quarter of an hour or twenty minutes, whilst paroxysms of hysteria are sometimes protracted for many hours; that, in epilepsy, there is always much foaming at the mouth, whereas in hysteric paroxysms that symptom is either totally absent, or is observed to present itself in a very inconsiderable degree; that during an epileptic paroxysm the pulse acquires both greater strength and frequency than it possessed before, whilst in hysteria it becomes smaller and more contracted, although, as in the other case, it generally acquires an increment of frequency; and lastly, that epilepsy leaves stronger impressions of its effects on the features, manners, and on the general health of its victims, than are entailed on its subjects by paroxysms of hysteria.

It is worthy of remark, that what we may be permitted to call the hysteric diathesis has not unfrequently the effect of modifying the character, of exasperating the symptoms, and even of suspending the action of divers other diseases. This circumstance has induced some writers to distribute the accidental compli-

cations of hysteria into so many distinct varieties of the disease itself. Hence, coughs, consumptions, local and inflammatory affections, fevers, states of the stomach and bowels, all unusual affections of muscles, many states of nerves, certain conditions of the vital functions, some of the phenomena of mind, peculiarities of manner and character, and even tricks of habit, have been made available for the extension of these useless distinctions. It is indeed a fact, very well established by experience, that the morbid actions of hysteria may not only modify and complicate, but also, as happens in many cases, subdue or become themselves substitutes for, those of other diseases. Such alternations and complications of diseases may, indeed, often test the sagacity of the physician; but they should not be permitted to confound all our more correct notions of logic and nosology. A well-digested system of diagnosis among the various forms and complications of hysteria, might doubtless be constructed into a work of considerable practical value; but the materials of such an undertaking are obviously too multifarious and extended to admit of its being attempted in the present article. We will therefore now proceed to the consideration of the TREATMENT of this interesting malady.

If there be any point of practical interest on which the writers on hysteria have been all agreed, it is that of the great difficulty and unsuccessfulness of its treatment. To discuss this branch of our subject, however, with as much clearness as its essential obscurity and abstruseness may admit of, we shall consider it in the order of the following practical subdivisions; viz. The treatment of hysteria, 1st, during its paroxysms; 2ndly, when recent, and in its simplest forms; and, 3rdly, when chronic and exasperated by some of its principal and more formidable complications.

The personal management of a patient in a fit of hysteria is generally very simple and easy to those who understand the subject. All that is necessary to be done, in the greater number of cases, is merely to restrain and to repress the violence of the convulsive movements incident to the disease. This may be done, partly physically, by mechanical coercion, and partly morally, by urging on the patient's attention the propriety and great importance of using all the means in her own power of repressing the inordinate actions of the disease. In meeting the first of these indications, care should be taken to give to the patient's hands and arms as much freedom of movement as may consist with her own safety. The movements of the head should be particularly watched, inasmuch as some women have been known to make efforts to knock their heads against bedsteads, and other hard bodies. A very common action in hysteric fits, is to carry one or both hands to the throat, the seat probably of the patient's greatest distress at the time, and to gripe it with much apparent violence. This action should also be restrained within moderate bounds, but perhaps not altogether prevented; as probably it may have some slight effect in relieving the distress which it attempts to remove. In other cases the hands are seen applied with similar violence to the breasts and the scrobiculus cordis. This action is probably

adopted to relieve a painful sense of stricture, which is felt in such cases to affect the intercostal muscles and those of the diaphragm. On the same principle, as in the affection of the throat, it should be similarly watched and moderated.

It is seldom that the tongue is protruded from the mouth in cases of hysteria, and therefore it does not so often require to be guarded from the action of the teeth, as it does in cases of epilepsy. There are, however, exceptions to this rule, and when they occur the usual precautions should be adopted of insinuating a roll of diaper cloth between the teeth, due care being taken that the napkin when introduced shall not be of a size to interfere with the action of breathing.

The moral influence to be used with a view to restrain the violence of the convulsions incident to hysteria, should perhaps never exceed the limits of earnest and judicious exhortations to the practice of self-control. The fact is beyond a doubt that such control is in a great number of cases, and to a very beneficial extent, within the patient's own power. Stronger moral influences than that of persuasion have indeed sometimes been made available for the mitigation and subduction of these convulsive actions; but violently painful impressions, especially such as have been sought to be produced by the infliction of sudden terror, have been known to have greatly exasperated the malady; and, if we may credit the older writers, to have converted hysteria, under some of its mildest forms, into cases of incurable epilepsy.

Our indications of medical treatment DURING THE PAROXYSMS of this disease, should have for their objects, to alleviate the sufferings of the patient, to shorten the duration of the fit, and to shield the organs and functions most vitally concerned in the tempestuous phenomena of the malady from dangerous or fatal lesions.

One of the most prominent symptoms of hysteria during the paroxysm is the distressing difficulty of breathing, occasioned by the painful spasms which usually affect the muscles of the throat; for not only is the spastic constriction itself of the larynx a painful condition, as we see sufficiently indicated by the action of carrying up the hand and violently seizing and pulling at it; but it acts as a cause of two other painful sensations, viz. that of strangulation as if from the action of a rope or tight collar, and that of suffocation from want of due supply of atmospheric air for the purposes of respiration. In other cases, and indeed often complicated in the same individual with the above spasms of the larynx, the patient has to sustain a similarly morbid action of the muscles of the diaphragm, and of those of the abdomen, including whole tracts of intestinal muscles, and even not unfrequently of those of the heart itself. To relieve those spasms, and especially to remove all impediments to the function of respiration, must therefore be considered a first object of medical treatment.

Whilst the means most relied on for the attainment of this object are sent for or being prepared, all tight ligatures and bandages should be relaxed or withdrawn, fresh air should be freely admitted into the patient's chamber,

unnecessary assistants and spectators should be requested to withdraw, and all causes of irritation carefully removed.

Amongst the means of effecting the alleviation of spasms, friction of the part affected may be mentioned as the one most immediately accessible and applicable. Accordingly, the author has repeatedly seen friction, applied with considerable force to the throat and to the scrobiculus cordis and abdomen, produce very decided relief of the convulsive actions of the muscles of those parts. It is not uncommon to see the attendants on hysterical subjects apply friction, with or without aromatic volatiles, to the temples, hands, neck, etc. These little services are perhaps, in some degree, useful as counter-irritants; but they would be much more so if they were applied more vigorously and more immediately to the parts just mentioned, as being most implicated in the disturbances of the vital functions.

The application of volatile and odoriferous substances to the nostrils is both an ancient and a universal practice. The substances most frequently used for these purposes have been oxycrats, alkaline volatiles, preparations of ether and spirits, preparations of aromatic and fœtid gums, the vapour from burnt feathers, etc. The author is not very sure that he has ever seen any striking advantage derived from this practice, however universally he knows it to be adopted. But inasmuch as many able writers have spoken of it with great approbation, and published no small number of cases in illustration of its utility, and it is not probable that at all events it can be of POSITIVE DISSERVICE, he feels diffident of his right to attempt to dissuade any one from its employment.

Of the utility of some of the above substances, administered as INTERNAL REMEDIES for hysteria, he is happy to observe that he entertains a much more favourable opinion. The fœtid gums given in adequate doses by the way of the stomach, have an undoubted power of relieving, perhaps in some cases of temporarily subduing, the convulsive actions incident to this malady. The most powerful antispasmodic is opium. But the exhibition of medicines in such cases is not always practicable through the medium of the stomach. Sometimes the patient cannot swallow in consequence of the pharynx being spasmodically closed, whilst in others her consciousness might be so much impaired or obliterated as to make an attempt to exhibit medicines by the mouth a dangerous experiment. In such cases, therefore, the medicines of this class should be exhibited by the rectum. An enema, consisting of half a pint of thickish gruel, with two or three drams of the tincture of assafœtida or of castor or of valerian, and from four to six grains of solid opium well powdered and diffused in it, might in most cases be expected to mitigate the severity, if not altogether to effect the solution of a paroxysm of hysteria. Opium may also be very conveniently employed by friction of the inside of the arms, legs, thighs, etc., with the tincture or with unctuous preparations of it. The practitioner before, however, he determines upon the use of opium, will of course deem it his duty to ascertain, with great care and much judicious attention, the state of the circulation.

in the head. By reason of the extreme disturbance of the sanguiferous system in severe paroxysms of hysteria, an increased determination of blood to the head is not an unfrequent accompaniment of them. The existence of a congested state of the vessels of the head, may be pretty easily judged of by a more than ordinary absence of consciousness, by a turgid appearance of the countenance, and by great and unrelaxing development of the external jugular veins. In such cases venesection would present itself to a judicious physician as a most important precautionary measure. The quantity of blood to be abstracted would of course be to be determined by the special circumstances of the individual case.

Spirituous stimulants of all kinds are to be avoided in the treatment of hysteria during the paroxysm, unless indeed asphyxia might seem to be a prominent symptom of the case; when a moderate quantity of generous wine or strong brandy and water might be exhibited with great advantage. Foreign writers have spoken of the use of opiate and other kinds of injections into the vagina, and of the introduction of pessaries and even of pressure made upon the vaginal part of the uterus by means of the taxis, as solvents of paroxysms of hysteria. Such modes of treatment would not be submitted to in the practice of this country, nor for obvious reasons is it at all desirable that they should be.

In undertaking the treatment of A CASE OF HYSTERIA of recent accession, it would be one of the practitioner's first objects if possible to ascertain the supposed or known cause of the malady. This inquiry would naturally lead him to the knowledge of the previous state of health, and of the physical and moral habits of his patient, and possibly of circumstances essentially connected with the operations of her affections and passions. It is a fact which it is apprehended can scarcely be disputed, that few subjects of hysteria have been known to MENSTRUATE with perfect regularity; and if we may depend upon the results of our own observations and experience, it is equally undeniable, that in a very great majority of cases the hysteric passion is found to owe its origin to some imperfection or disturbance in the performance of the catamenial function. In a case, therefore, of recent accession of hysteria, the skilful physician will determine his attention to the state of that function. Embarrassments of the circulation are almost always very speedy consequences of suppressed menses. How such embarrassments may become an efficient cause of hysteria, it might not be perfectly easy to explain; and it perhaps might be going too far to assert that in all cases of the advent of hysteria, accompanied by disturbances of the catamenial function, the embarrassments alluded to are invariable consequences. There can, however, be no doubt, that in a great majority of cases, derangements of the circulation are positive results, and to be looked for amongst the earliest effects of disturbances of the menstrual function. This view of the case being assumed to be true, or even upon the whole entitled to the claim of considerable verisimilitude, it would seem to direct the practitioner's

first attentions to the state of the circulation, and when found embarrassed or much disturbed and irregular as to its determinations, to the adoption of the earliest and most vigorous measures for its restoration to its natural and healthy balance.

There are two great measures which, if used opportunely, are especially calculated to restore the circulation when disturbed as here supposed to its natural and healthy balance. After having perused the author's statements on the subject of amenorrhea, see p. 310 and 320, the reader will scarcely require to be apprized that these are, first, venesection as soon as possible after the application of the cause of suspension of the function; and, secondly, when necessary, the exhibition of a moderate charge of mercury; one sufficient, however, to produce an ascertainable affection of the mouth. When these measures shall have been completed, the patient should have the benefit of a few weeks' residence on the sea-coast, or, what might be still more useful to her, that of a tour in an open carriage, the weather and the season permitting, which should occupy about the same length of time, through some of the more interesting districts of the country. These plans might possibly in some few cases, but not often, require to be followed up by the use of antispasmodics and tonics, viz. by that of assafœtida, castor, musk, or valerian, for the former; and sulphat of copper or of zinc, or preparations of iron, for the latter. The metallic tonics, if prescribed at all, should be exhibited in ample doses. The practitioner will moreover do well to interpose an occasional purgative, whilst at all times the bowels must be kept freely open; no state of things being more directly calculated to favour a relapse of the disease under consideration than a loaded or constipated condition of the bowels.

The degree of activity of treatment in any of the above particulars will of course require to be properly adapted to the age, fulness of habit, constitutional temperament, and other circumstances of the patient; as well as to the variety, amount of violence, or any speciality of cause or complication of the malady. In recent cases, for example, and in those of plethoric subjects characterized by much violence of symptoms, and especially by indications of great determination of blood to the head, the first abstraction of blood should be made on a more than ordinarily ample scale; for then the medical attendant will have for his object not only the speediest possible restoration of the lost balance of the circulation, an object which, on its own account, the reader will not be disposed to undervalue, but the very important additional one of rescuing his patient from the immediately impending danger of an incurable lesion of cerebral tissue, or of that even of loss of life itself. Moreover, what more likely to effect a speedy solution of the tremendous spasms which we sometimes observe to affect the respiratory passages, or the immensely tumultuous palpitations of the heart, threatening actual disruption of its parietes, which we see on other occasions, than the abstraction, the quantity afforded to be judiciously graduated according to its effects, of from twenty to five-and-thirty ounces of blood? Such an

ample relief to the circulation, followed up by a speedy administration of a full dose of calomel and opium; or, in a case of incapacity to swallow, an equally efficient measure of opium exhibited as an enema would seldom fail to allay the most furious tempests incident to the paroxysms of this disease. Suppose the poor creature, whose case has been recorded in p. 431, and which terminated so miserably at the Hôtel-Dieu, had been thus actively treated, would she have lost her life? Nay, would it not very often happen, much more frequently than it actually does happen EVEN IN THIS COUNTRY, that the disease would be at once subdued and permanently cured, if first paroxysms were treated actively and fearlessly on the principles here attempted to be enforced?

Neglect of efficiently active practice on the first accession of the disease is no doubt a principal reason why the prognosis in hysteria is, as it actually is, so generally and almost universally unfavourable. The first paroxysm of the disease treated on the common plan of applying alkaline and acidulo-aromatic scents to the nostrils, of bathing the face and temples with vinegar, of restraining the convulsive movements of the patient, which is often done with too much force, and finally of supplying her with an aperient bolus or two, and perhaps an equal number of packets of draughts made with camphor ammonia and asafœtida, is almost sure, in a very short time, to be followed by another, and that by a third, until, by the repetition of paroxysm after paroxysm, the disease becomes permanently established and chronic. Or it may happen that the first accession of the complaint may be the effect of a moral cause of powerful influence, and at the same time of a nature not to admit of being removed by drugs and alexipharmics, nor even by the most active measures that can be supposed to be exclusively at the command of the physician. Disappointments in love, the deaths of near and dear relatives, sudden losses of property and other calamitous events in providence, will readily present themselves to the reader as examples of such influences. In cases of this description, however judiciously the first paroxysm may be treated, it is obvious that the original cause continuing to be applied, there will continue to exist for an indefinite period of time a strong predisposition to repetition of paroxysms, and therefore an unavoidable liability to an eventual establishment of the disease as a chronic malady. It is under that form that we have next to give it our best attention. The medical attendant upon being consulted in cases of chronic hysteria, will seldom be called upon to determine on the instant upon the whole extent and combinations of his curative measures. He will indeed often find before him a very wide field both for observation and inquiry, and he will therefore do well to examine accurately into all the facts of his case, before he decides upon any system of treatment to be adopted. He would naturally wish to ascertain the age of the patient, the predominant peculiarity of her temperament, the state of her sexual functions, and how far any disturbances of those functions should be considered as the efficient cause of her malady, consequent lesions of any other functions, any changes of

character which the disorder may have sustained during its progress, its present standing or duration, and all its actual, as also its probable, complications. The disturbances incident to this very remarkable disease seldom fail to derange very importantly the menstrual function, and we have already seen how much derangements of that function are calculated to disturb the operations of the chylopoietic organs. Hence we almost always observe that hysterical females are more than ordinarily the subjects of flatulencies, noisy movements, constipation, and other morbid conditions of the gastric organs. In the midst of these complications of functional derangements, it will be a duty of some difficulty for the physician to determine which functional system he shall make the object of his first attempts to rectify. As a general rule, perhaps, the gastric functions would present themselves to his first consideration. But this part of the subject has been already sufficiently considered under the article Amenorrhea, to which therefore the reader is respectfully referred. In short, the treatment of amenorrhea will be found in many important respects to correspond in its indications with those of the practice proper to be adopted in chronic hysteria. In many cases of the hysteric passion, moral management, and those general considerations of regimen to which our ingenious neighbours the French have of late years attached the attributive epithet Hygeian, will embrace a very large proportion of the objects to be attended to. It seldom happens that the more violent disappointments and greater bereavements of life, can under any circumstance be speedily remedied; it being almost always impossible to replace the objects of such disappointments and bereavements by any others of equal value either to the understanding or the heart. In such cases, therefore, the professional philanthropist will have to direct his attention to the best modes and sources of furnishing his fair patient with such useful and interesting occupations as her means and inclinations may enable him most advantageously to point out for her. Temporary change of residence, travelling, visiting attached and much-respected friends, an extension of intercourse with cheerful and virtuous society, a constant succession of agreeable and useful employments, and above all, daily exercise, preferably either on foot or on horseback, in the open air, will be found to furnish him with a pretty ample choice of materials for his moral prescriptions.

The more formidable complications of hysteria are such as present themselves in combination with functionally-disordered conditions of the cerebral and nervous system; as also with those of the uterine, gastric, pulmonary, and sanguiferous system. The operations of these several systems of action, even in health, are mutually so dependent and associated, that it is exceedingly difficult to detach the disordered functions of any one of them from those of the others for the purpose of a separate consideration. Of the disturbances of the cerebral and nervous system in particular, it may be observed, that they form so important a part of the malady, as to seem to constitute its very essence. So important in-

deed are the lesions of this system as attributes of hysteria, that several of the most eminent pathologists of modern times have identified them with the very source and efficient cause of the disease, and have accordingly applied to the supposed morbid results, nosological designations literally expressive of the identity in question. M. Georget, *Malad. Nerv.*, tom. ii. p. 262. But independently of the ordinary convulsions to which these remarks more immediately refer, there are also morbid affections of nervous tissues which present themselves only occasionally and accessorially in cases of hysteria, but which in those cases constitute no small share of the patient's distress. As examples of such special affections, we may instance the *clavus hystericus*, the neuralgic pain of the left side, and other agonizing pains of detached localities supposed to be of nervous tissues in different parts of the body. It is more especially to relieve and to remove those supposed affections of the nervous system that the greater number of modern practitioners have considered the class of antispasmodic medicines as being properly indicated in cases of hysteria. Cupping and blistering have occasionally been resorted to with great advantage for the alleviation of neuralgic pains of detached parts of the body. Opiate and camphorated embrocations have also been usefully resorted to in such cases. In one case of the same description the author has very recently been much gratified with the effects of large doses of carbonate of iron, as he has been in many former cases of neuralgic affections not connected with this disease. But of all the morbid functions of the nervous system, the most important, in a practical point of view, in connexion with our present inquiry, is the specially-epileptic form which the convulsions of hysteria sometimes assume. Writers on these subjects have supplied us with examples of the lapse of severe and maltreated cases of this form of hysteria into actual and even fatal epilepsy. These results are to be guarded against by the occasional abstraction of blood from vessels communicating with those of the head. The most convenient mode of accomplishing this object, whenever it might be deemed useful to have recourse to it in the absence of a paroxysm, would be that of making an incision into one of the external jugular veins. During the presence of a fit, the closure of the orifice might be attended with some difficulty. In large towns where good cupping is practised, the same object would be equally conveniently attained by cupping from one or both temples, or from the parts immediately behind the ears. Bleeding from the temporal arteries seems only to succeed in very few hands.

Patients subject to this form of disease should always go with very little hair, and have their heads only lightly clad. They should be exceedingly regular in all their habits, guard themselves against causes of violent mental emotions and passions, abstain from indulging in full eating and drinking, sleep in large rooms, with their heads elevated, and only for about six hours and a half in the four-and-twenty, and accustom themselves to the habit of wearing yarn socks or stockings and thick shoes.

In consideration of statements already made and more than once repeated in the present work, on the treatment of gastro-intestinal derangements, the author will not here trouble his readers with any further remarks on that subject. In respect to cases of complicated pulmonary derangements, whether of function or of structure, it would perhaps be best upon the whole, at least as a general rule, to consider the pulmonary affection as of the first importance in the treatment. This remark is intended to be applied to such cases, more especially, as have been denominated hysterical phthisis, and hysterical asthma; but it may also be properly enough extended to those of some organs immediately contiguous to those of the respiratory system, as hysterical hydrophobia, hysterical dysphagia, hysterical hiccup, etc. Immediately resulting from the spasmodic contractions which constitute the most prominent attribute of hysteria, are the alarming congestions and consequent tumultuary movements of the great central organ of the circulation, the heart. The heart itself consists essentially of muscular tissue, and therefore, like other muscular structures of the body, is liable to be affected by spasmodic rigidities and contractions; but during paroxysms of hysteria it is moreover subject to be unequally excited by its appropriate stimulus the blood, or rather to be altogether deprived of that natural stimulus on the one side, whilst enormously overweighted almost absolutely overwhelmed by excessive quantities of it on the other. See page 431. Hence, the prodigious palpitations of that organ, accompanied in many cases by much intense pain, and the most pitiable expression of anxiety, indicative as it were of the distressing laboriousness of nature's efforts to escape from the horrors of an all but mortal struggle.

The obvious indications in cases of this kind are, first to relieve the more immediately pressing symptoms by bleeding, and then as soon as possible afterwards, to restore the circulation to its natural and just balance, by the removal of the spasms presumed to be the cause of its inequality, which is to be effected by the exhibition of ample measures of opium, either by the mouth or by the rectum, as the particular case may indicate. In chronic cases, and under the circumstances of frequently-repeated paroxysms, it is not here to be understood that bleedings in any quantities are upon all occasions to be resorted to. There are many patients so much reduced by the long duration and complications of the disease, that such practice could not be for a moment entertained. Under those circumstances we therefore proceed to the immediate adoption of the remaining great measure to be had recourse to, that of effecting the solution of the spasms by opium and its usual adjuvants included within the class of medicines called antispasmodics. To sustain the general powers of the system, and to prevent as much as possible its lapse into a state of great feebleness and consequent derangement of some of its more important functions, we may, subsequently to the adoption of the above measures, be required to have recourse to the use of tonic remedies, and to recommend the daily use of friction with the hand or flesh-brush, that of regular exercise in the open air, much attention

to diet, and a habitual observance of all such rules of regimen and of personal management as experience has taught us to value as the physician's most efficient auxiliaries. In cachectic complications of the disease, the practitioner must have recourse to the use of such remedies as may be especially indicated by the nature of the complications. Cachectic conditions of the system must be considered as the sequels of previous and more active forms of the diseases of which they are the results. In most such cases small alterative doses of mercury, alternated with tonic medicines judiciously combined with the general restorative measures just enumerated, will form the practitioner's most useful indications. "It should not be forgotten that the different parts of what is called an alterative treatment often induce most important changes by slow operations, seemingly effected in the actions or conditions of the nervous or vascular systems, or wrought upon less obvious sources of continued malady, existing perhaps in the secretory processes." Conolly on Hysteria, *Cyclopædia of Practical Medicine*, part xi. p. 586. Astruc, *Traité des Maladies des Femmes*, Paris, 1761, tom. iv. p. 54. Göez, Adam Julius, *Beytrag zur Geschichte von den Hysterischen Krankheiten*, Meinungen, 1771. Caldwell, *Dissertatio de Hysteria*, Edinburg. 1780. Buechner, Andr. Elias, *Pathologia et Therapeia Passionis Hystericæ*, Erfurti, 1739, et *Dissertatio de Clavo Hysterico*, Hale, 1751. Raulin Joseph, *Traité des Affections Vaporeuses du Sexe*, Paris, 1758. Wilson Andr. *Medical Researches on the Nature and Origin of Hysteria*, Lond. 1776. Purcell John, on Vapours and Hysteric Fits, Lond. 1701. Riverii Lazar. *Observat. Medic.*, etc. cent. i. No. 32, cent. ii. No. 11, 65. 69. cent. iii. No. 83. Hoffman Fred. *Opera omnia*, Genev. 1740, tom. iii. sect. i. cap. v. p. 50. Necnon Consult. et Respons. Medic. p. 10. 207. 233. Sennert Daniel, *Opera*. Lugdin. Batav. tom. iii. lib. iv. sect. iii. cap. iv. p. 85, et sequent. Thomæ Willis *Opera omnia*, cap. x. de Morb. Convulsiv. p. 68, et sequent, de *Passionibus Hystericis*. Whytt's Works, *Observ. on Nervous Diseases*, p. 525—713. Sauvages, *Nosolog. Methodic.* Amstelodam. 1768, tom. i. p. 586, et sequent. Morgagni de Sedib. et Caus. Morb. Lugdin. Batav. 1767, epist. xlv. art. 17—20. M. Louyer Villermay, *Traité des Maladies Nerveuses*, Paris, 1816, tom. i. p. 1—216. Pomme, *Traité des Affections Vaporeuses*, à Lyon, 1765. Heilmann, *Momenta quædam circa Affectum Hystericum*, Vitterberg, 1800. Manning Heinrich, *Neber die Mutterbeschwerung*, Vindobon. 1790. Georget, *Reserches sur les Maladies Nerveuses*, Paris, 1821, p. 238—302.

OF NYMPHOMANIA.—Uteromania, metromania, hystermania, eretomania, andromania, gynaicomania furor uterinus, melancholia uterina, tentigo venerea, etc. The term nymphomania in common with its numerous synonyms, has been employed to express a morbidly intense venereal desire, combined with aberration of the understanding. This disease must have existed from the earliest times, although the more celebrated physicians of antiquity, viz., Hippocrates, Galen, and Celsus, have made no distinct mention of it in their

writings. We have evidence, however, that it was well known to Soranus, a Greek physician, and to his countryman Ætius, both of whom practised medicine at Rome during the earlier reigns of the empire. Nymphomania appears to be essentially a morbid affection of some part of the uterine system; the seat of the diseased passion which it most prominently exhibits, being either a part or the whole of the female genital system. Sauvages has associated this disease in his system of nosography, with vesanious affections of the mind. Franc. B. de Sauvages. Nosolog. Methodic. tom. ii. p. 226.

Furor uterinus may be described as an endemic disease, almost exclusively of warm climates; insomuch, indeed, that in the temperate climate of this country, examples of it are exceedingly rarely to be met with.

With very rare exceptions, it would moreover appear to be a disease of the ADULT female; and when any exceptions have presented themselves, they have occurred in connexion with a precocious development of the organs in which the sexual passion is presumed to inhere. Dict. des Sciences Médic. tom. xxxvi., p. 565. It has, moreover, most frequently presented itself during the earlier years of what some foreign writers have called the sexual life of women; although in some few cases it has been encountered, if we may depend upon the accuracy of one or two writers on the subject, at ages very considerably more advanced. There are examples of women who had felt so little interest in the privileges of connubial life as actually to have been averse to the approaches of their husbands during the earlier years of their marriage, but who subsequently became the victims of the most outrageous sexual desires. Hellwig records a case of this kind, which actually terminated in fatal furor uterinus. "A woman of a bilious and sanguineous temperament, the mother of a daughter already married, who had never been remarkable for much regularity of conduct, represented that for many years she had been the subject of extreme aversion for certain duties which she owed her husband. At a later period of life she was seized with an asthma, of which the paroxysms were extremely violent. Whilst Hellwig attended the patient professionally for that complaint, he had opportunities of observing that she showed indications, which could not easily be mistaken, of an incipient erotic alienation. Indeed, he was not a stranger to certain rumours in the town of imputations on her conduct, which well accorded with the more direct conviction which personal observation was thus calculated to impress upon his mind. She indeed very frankly acknowledged, but without grossness or obscenity, with what ardour she surrendered herself to the amorous embraces which she had formerly so long repelled. She described in equally ingenuous language, with great particularity of expression, but without any indecency, the ravages of the fire which tormented her. "*Fiat vagina quasi patratorem nervum cupidè admissura et amplexura, clitoris æstuat, erigitur, intumescit.*" She moreover complained of a sense of weight in the hypogastric region, and of a pruritus of the external genitals. Her conversation furnished no evidence of an aberration of the understanding. At a more advanced period of the malady she became

the subject of hysteric symptoms of intense severity. Sometime afterwards the patient died. Permission was given to inspect the body. On exposing the contents of the hypogastrium, four excrescent bodies were seen to project from the right side of the uterus. They were kidney-formed, but of no considerable size. In two of them there were cavities, which however had no communication with that of the uterus itself. They were attached to the right side and fundus of that organ by bundles of filaments, which also connected them with the vertebral column. On the ovary of the same side were observed several smallish cysts, which together contained about half an ounce of darkish-coloured gelatinous matter. Hellwig. Johan. *Observ. Physic. Medic.* cent. 11, p. 308, obs. 148.

It has been reported by writers who have had more opportunities of acquainting themselves with the extraordinary phenomena of this malady than the practitioners of this country can be expected to be, that the nymphomania of the female is a disease of much more frequent occurrence than is satyriasis, the corresponding affection of the male subject. This presumed fact has been attempted to be explained by a reference of it to certain peculiarities of locality and structural connexions of the female genitals, deemed more favourable to the development of the sexual passions, than they have presumed those of the male to be in respect to the same particulars. It does however appear to the author that such attempts have altogether failed. Others have imputed the fact here presumed to the more sedentary and retired habits of women, and to the severe obligations of celibacy and continence which, under certain circumstances, the laws and usages of society have almost exclusively imposed upon them. It has moreover been presumed, that the more mobile and susceptible temperaments of women must especially subject them to the liability of a greater predisposition to tumultuous movements of their passions than the other sex.

It does not appear very certain, nor can it indeed be a matter of much importance, whether the fact itself thus gratuitously contended for, or any one of its explanations, can be unhesitatingly accepted as having been founded on the basis of a sufficiently extended induction. It has been already stated, that women are liable to uterine furor during the whole period of their uterine life; but it has been observed that they are much more frequently the subjects of it at the two principal epochs of their sexual existence, viz. that of the age of puberty for the first, and that of their constitutional climacteric, the period of the cessation of the menses, for the second. Inasmuch as not many women under any circumstances, whether of age or climate, ever become the victims of nymphomania, it has been attempted to connect the predisposition to it with certain strongly-marked temperaments and striking peculiarities of organization. Hence, its ascription especially to a predominance of what has been called the nervous temperament, of which the principal indications are, strongly-developed muscles; a sparing supply of cellular tissue; hair in ample quantity on all parts of the body usually furnished with that useful ornament, and that most frequently of a dark and even of a jet black colour; eyes of the same colour, and generally

very large and expressive; a mobile and imposing physiognomy; the sexual attributes strongly marked in respect to the several circumstances of the position and development of the mammæ; the contour of the hips, indicative of a pelvis of the best form well proportioned to other parts of the figure; and finally a system of extremities well calculated by their symmetry and power to give effect to the other attributes of a being thus remarkably distinguished. With the above characteristic properties have been added certain coincident forms of the mouth and countenance, such as a wide mouth, ruddy and thickish lips, white, sound, and well-formed teeth, etc. In the above enumeration has been omitted, for the purpose of a more particular notice, one constant accompaniment of the temperament which they are represented to characterise, viz. an unusual susceptibility of the skin to tettery affections. An example of so extraordinary a fact will probably not be unacceptable to the reader. "A young lady of a sanguineo-bilious temperament was for a long time the prey of intense misery, the consequence of a disappointment in an affair of the heart. She shunned the society of men as well as that of her female companions, and she became thoughtful, absent, and melancholy. At the age of thirty she was attacked with hysteria. From that time forward she absented herself from all society but that of her priest. Shortly afterwards she became the subject of a distressing pruritus, which affected all parts of her body, her face becoming at the same time disfigured by an offensive pustular eruption. To remedy these annoyances, she made use of dulcamara, potations of milk and whey, together with warm bathing. But deriving little or no advantage from the adoption of these measures, she almost immediately subsequently lost her appetite, and experienced a most important revolution both of her physical and moral economy. On the first manifestation of these changes, she continued to conduct herself with her usual propriety, making use of the choicest language, but nevertheless exhibiting in the general expression of her countenance, and especially in the more than ordinary brilliancy of her eyes, some striking indications of the unhappy transformation of character which she was about to undergo. But on the day of the great festival of the church, when she went to her priest for her matin service, she was guilty of indecent acts, and made proposals of an indelicate nature. That gentleman reported her conduct to her parents, who felt disposed to place her under the surveillance of a suitable companion; a proposition, however, which she peremptorily declined, founding her objection to that arrangement on the pretence that she had an unconquerable objection to the society of persons of her own sex. At mid-day, on the same day, she was found stretched on the floor, with her face concealed, and her hair dishevelled. At a later hour she was seated on a chair, with her face much flushed, and her eyes sparkling with an expression which was foreign to every indication of her natural character. Her pulse was unequal and frequent; her hypogastrium was slightly distended and painful. When a question was addressed to her by an attendant, she threw into her face a glassful of lemonade. In about half

an hour after that little incident she indulged in a loud outcry, and recited the third strophe of the ode to Priapus. "In my presence," said her physician, M. Jauzion, "she threw herself into the arms of her guardian, making use of every effort, and addressing herself in language the most moving and expressive, to induce him to relieve her in the peculiar exigencies of her case, threatening at the same time, in case of refusal, to deprive him of his life. She was forthwith bled. The operation was attended with great difficulty. She successfully refused all medicines. In the midst of these disturbances, her good priest made use of every effort to calm her; but instead of listening to his exhortations, she threw herself out of her bed like a fury, and in language not to be repeated, conjured him to give her the relief which nature entitled her to sue for, professing at the same time that she had always entertained a great predilection for priests. Upon this she was put under personal restraint, AND THE PRIEST MADE THE USUAL DISPOSITION TO EXORCISE HER.

During the performance of this service she became drowsy, and immediately afterwards the external genital surfaces were found to be lubricated with an offensive fluid. This was followed by a calm, which was attributed to the act of exorcism. The pulse became less frequent, and the hypogastrium less distended: the surface of the body improved in its complexion, and was suffused with an abundant perspiration. The patient appearing insensible, thirteen leeches were applied to her vulva; and she was afterwards immersed in a sub-tepid bath for nearly two hours. During the night she was very tranquil, with the exception that she muttered continually. Her pulse was then weak and her respiration difficult. She frequently carried her hand towards the vagina. The clitoris was in a state of erection. During this intermission an unsuccessful attempt was made to administer to her a full dose of cinchona. On the following morning there supervened, all on a sudden, the most furious and ungovernable venereal desires. In the mean time, the patient quitted her bed, threw herself into the arms of a carpenter, and strongly solicited his embraces, assuring him that he had never met with so beautiful a woman in his life. In consequence of this adventure, she was again put under adequate personal restraint, and placed under the immediate superintendence of four powerful female domestics. The priest was again induced to make trial of his especial power, by prayers and incantations, to cast out the demons; but for nearly seven hours the unfortunate patient never ceased to make use of most indecent language. Added to the above symptoms, it was observed, that the œsophagus was closed by a spasmodic constriction of its muscles. In the presence of the priest, the physician, and her parents, she again recited the two first stanzas of the ode to Priapus. This paroxysm lasted for nine hours. It was succeeded by a great prostration of strength, an exceedingly feeble pulse, with cold colliquative sweats, frequent hiccups, and the sardonic laugh; and the poor unfortunate object of the most intense sympathy and commiseration thus expired.

Nymphomania has by some writers been attributed to the presence of

worms in the rectum. One of the more frequent causes of pruritus of the female genitals is, in point of fact, the presence of ascarides in that intestine. The irritation so produced is often intolerably annoying; whilst the action, naturally resorted to for its relief, may well be supposed not incompetent to add to the existing phlogosis, the already irritated tissues being peculiarly, and even functionally, susceptible of pleasurable excitement from friction. How far the pruritus, here supposed, may at any time have been more directly produced by lodgments of ascarides among the folds of the vagina, or of those of the external genitals themselves, as has been by some writers maintained (*Dict. des Sciences Medic.* vol. xxxvi. p. 571), the author does not feel himself prepared to state, having never met with an example of that kind in his own practice.

Cases are recorded of nymphomania having been occasioned by sympathy with irritated states of the rectum, consequent upon the introduction of stimulant substances into that organ for curative and possibly for other not equally legitimate purposes. Catherine B., aged 58, of a sanguineous and highly irascible temperament, became the subject, about the period of the cessation of the menses, of an herpetic eruption, together with a very troublesome pruritus of the external parts of generation. Soon after its first appearance, its symptoms yielded to a regulated regimen and suitable medicines; but in about two years afterwards they again returned. The patient, on that occasion, consulted an herbalist, who engaged to effect a radical cure of her complaint. For that purpose, he made use of injections consisting of certain preparations of drastic plants, such as of the hedge hyssop and asarum. The two first of these enemata produced copious evacuations. That effect was, however, accompanied by an exceedingly troublesome itching of the genitals. The third excited an insatiable desire for sexual intercourse, and was followed by very profuse evacuations, with faintings. A fourth produced another morbid affection: DEGLUTITION BECAME IMPOSSIBLE, AND THE APPROACH OF FLUIDS SEEMED TO HAVE THE EFFECT OF CLOSING UP THE THROAT, AND OF EXCITING A SENSE OF SUFFOCATION; the patient, in the mean time, complaining of a burning heat from the throat down to the epigastrium. The horror of liquids became more and more distressing, until at length the very sight of them caused convulsions. During the subsequent night, the patient experienced several paroxysms of phrenitic delirium, and on more than one occasion she manifested a disposition to bite. On the third day she was observed to discharge great quantities of saliva; the pulse was small and intermittent; the extremities became cold, and after a lapse of a few hours she expired. Louyer Villermay, *Art. Nymphomanie*, *Dict. des Sciences Medic.* p. 573.

The reader will observe that the patient, in the above case, besides having been made the victim of a most obstinate perseverance in the use of dangerously irritating topicals, was previously the subject of AN HERPETIC ERUPTION, which was attended by a very troublesome pruritus of the external parts of generation.

It is well known that lepra and elephantiasis have often been attended by strong venereal desires and priapisms in the male subject, as they have also been, although perhaps somewhat less frequently, by nymphomania in the female.

Certain articles of diet, as well as several varieties of condiments used in cookery, have had the reputation of possessing the power of rousing or of increasing the activity of the genital organs; of accelerating the circulation in those parts, and consequently of inordinately exciting the appetite for venereal gratification. In this list, wines taken at a premature age or in excessive quantities, spirits, liqueurs, coffee, some varieties of aromatics, etc., have found a place; as also have mushrooms, pig-nuts, preparations of savin, phosphorus, etc. It scarcely need be added that cantharides, both in powder and tincture, have been supposed to possess a peculiar influence in this respect on the uterine system. Some of these latter substances have accordingly been administered with a view to the excitement of the uterine system, and for other purposes, both by the stomach and by the rectum in a variety of forms; as also in some cases by the vagina, in the several forms of lotions, injections, and pessaries. "In analyzing the writings of Moschion," observes a French critic, "to whom we are indebted for the first treatise on Midwifery, our author takes occasion to quote his method of treating the furor uterinus. The whole of the prescription is curious. '*Vidua si fuerit ipsam manum injiciat et levius habebit. Virgini autem succurrendum est sic: fac illi similitudinem virgæ naturalis de cera et nitro et cardamomo secundum ætatis ejus magnitudinem: quæquæ diligenter tere et subjice ut molla fiat et sit ibi quamdiu pati poterit, et carebit vitio.*'" *Histoire de la Chirurgie, par M. Peyrilhe, vol. ii. Lond. Medic. Journal, 1782, vol. iii. p. 343.*

In the case just related, we observe that Moschion recommended a wax pessary as a remedy for nymphomania. In the following sketch of another case, it is made to appear that the wearing of another kind of pessary operated as a CAUSE of that disease. The subject of the narrative was so violently agitated by her tempestuous oestrus, that she made no difficulty in the procuring of the services of a male friend in her neighbourhood to relieve her passion. An incident which occurred on one of those occasions, gives us at once an idea of the kind of pessary which was used in her case; for it so happened, observes the reporter of the history, most inconveniently to the parties, that the natural organ of one of them got fastened by its corona within the ring of the artificial instrument of the other. The disease terminated fatally. *Siebold's Journal, vol. ii. p. 493. Communicated by Fried. Schröder, Surgeon, etc., at Hilden, Dusseldörf.*

The more prominent incident in the above case suggests to the author the present as a convenient opportunity of submitting to his readers the particulars of another equally remarkable history, although involving no necessary connexion with nymphomania, and possibly no connexion at all with any morbid influence of the sexual passion. The patient was professionally attended by two of the author's oldest friends, who are still living to authenticate the nar-

rative, viz. by Dr. Lucas, of Brecknock, who himself is the reporter of the case, and Mr. Jenkins, of Carmarthen, who assisted him in the treatment of it. "I was requested by a very experienced midwife to visit a woman who had a wooden substance in her uterus, which could not be disengaged. In the course of conversation I represented to her that it could not possibly be in the uterus, but would be found to be high up in the vagina. She however persisted that she could not be mistaken, and that I should find it situated as she had described. Upon visiting the patient, I found the description to be perfectly correct. The woman was a farmer's daughter, aged twenty-two, and had been previously the mother of an illegitimate child. The account given me by the patient was as follows. She had, for what purpose I leave others to determine, introduced into the vagina the spindle of a spinning-wheel, such as are commonly used in this country for spinning wool. See Pl. xi. fig. 5. The stock or grooved portion of it had slipped off from the part which receives the spun yarn, and ultimately got into the uterus. She had retained this substance upwards of two years, but was now so reduced and weak, and laboured under a discharge so very offensive to herself, her family, and those who approached her, that at length she stated to her mother the real cause of her illness, who in consequence brought her to have medical assistance. Upon examination I could just feel this substance. The os uteri was dilated not quite to the diameter of the hole which runs through the grooved part of the spindle, and through this hole the offensive discharge found a ready passage. I found it so firmly fixed that it could not be removed but by making an incision to enlarge the passage from the uterus. Having decided upon this, I availed myself of the kind assistance of our intelligent friend, Mr. Jenkins. In order to bring the spindle as low down as possible in the vagina, I introduced, through the hole in its centre, a dissecting-hook, which, reaching its upper end, enabled me to pull it down nearer the os externum, which not only gave greater facility to the use of the knife, but also contributed towards keeping the part in a steady position. Mr. Jenkins keeping the hook firm, I made an incision with a scalpel armed nearly to its point, and divided the os uteri upwards. Finding however I could not bring away the spindle without using a force which probably would be more injurious than the making of a second incision in an opposite direction, I determined on the latter; and although there was considerable resistance, I succeeded in bringing it away. The spindle-stock, upon examination, appeared from what adhered to it to have been surrounded by an ulcerated surface, portions resembling fungous substances coming away with it. Indeed there can be little doubt but that there was an ulceration of the uterus corresponding with the surface of the spindle. I may here notice that the grooves had been filled up by a woollen substance, possibly by portions of the woollen line which goes over the spinning-wheel, as some of it came away in a very decayed state with the spindle. There was, as might be expected, but little hæmorrhage, and the patient, contrary to my expectation, recovered

rapidly. I saw her in perfect health a few years afterwards. Upon a review of this case, it will very naturally be asked how this substance got beyond the vagina, so as to have been embraced by and ultimately imbedded within the uterus. Upon this point different persons may think differently. I shall offer no conjecture, but content myself with stating facts, and leave the reasoning to others. HENRY LUCAS." Letter to the author, dated Brecknock, May 10th, 1832.

Among the causes of irritation supposed competent to produce nymphomania, more immediately affecting the uterus itself, it may seem proper just to notice the asserted presence of ascarides and other vermiform entities within the actual cavity of that organ. In illustration of this somewhat doubtful point of pathology, the following sketch of a case of nymphomania, said to have been produced by that cause, will probably be read not without some interest. "A girl, of Batavia, aged 19, of a somewhat full habit, and of a darkish complexion attracted attention by the display of an unusual degree of levity and volatility of manners. She was often observed to laugh indecorously, and to conduct herself lasciviously by exposing her person and frequently applying friction to the pudendum. She moreover gave herself up to an unrestrained indulgence in acts of prostitution. At length she was withdrawn from society, and placed in an asylum proper for her case, where she was treated as the subject, which she really was, of a severe uterine malady. It was ascertained that her catamenia had been for a long time suspended; and in consequence of the administration of suitable emmenagogues, not only were her menses re-established, but diversely coloured worms, which were also HAIRY, HORNED, LONG, THICK, MULTIPEDOUS, were discharged in repeated clusters from the genital organs. The medicines which had thus been productive of such valuable effects were exhibited for some time, and the young woman was eventually restored to perfect health." *Ephem. Germanic. dec. ii. an. 5, Append. 1686, obs. 66. De furore uterino a vermibus: Auctore D. Francisco Paulino.*

It has pleased some writers to specify among the causes of the malady under consideration, certain derangements and disturbances of one or more of the secreting systems; such, e. g. as a sudden suppression of the transpiration by the skin, or of the menstrual function, or even of accustomed evacuations, as those from hæmorrhoids or from wounds or issues of long standing. Without contending for the truth of so general and sweeping a statement to the full extent of what it predicates, there can be no doubt of its correctness so far as it applies to disturbances of the catamenial function. "A young woman, aged 15, who had never menstruated, became periodically the subject of nymphomania, in consequence, as was believed, of the non-establishment of the flux natural to the weaker sex. After a free abstraction of blood from the saphena of the right foot, the disorder became considerably mitigated. Emmenagogue medicines were then administered, and such other means of general management adopted as sound sense and experience might be expected to suggest.

The menstrual flux was thus promoted, and the patient restored to perfect health." Th. Barth. *Acta Medica*, vol. i. p. 164, obs. 80. Auctore D. Casp. Kölichen. See also a somewhat analogous case by D. Johan. Christ. Bautsmann, entitled, *De Melancholia Uterina Periodica*. The periods were monthly, and the melancholia, together with the other symptoms, was removed by a copious flow of the menses. In this case, however, medical treatment had only the effect of mitigating the disorder, inasmuch as the patient remained subject to paroxysms of her malady as long as the author knew her. *Ephem. Germanic.* dec. ii. an. 8, 1689, p. 115.

In the greater number of the cases of nymphomania complicated with hysteria, which we find recorded in the German Ephemerides, and in other authentic registers of medical literature, we may indeed observe that the catamenial function, as in the case just quoted, was either totally suspended or greatly disturbed in its movements; so that both maladies might reasonably, in such cases, be the common results of embarrassments and irregularities of that important function.

Added to the several causes of nymphomania above enumerated, it is scarcely possible not to presume that some females are originally and constitutionally, not to say even structurally, more liable to become the subjects of this malady than other women. A case is quoted by M. L. Villermay from Buchan, of a child who was addicted even at three years of age to gross personal habits. As she grew up, her disgusting propensities grew with her, and became more and more intolerable. Her parents made an early arrangement for her marriage, and made choice for her of a healthy and robust husband. In due time she became pregnant, and for a short period subsequently was partially relieved from the importunities of her malady, without however experiencing at any time the ordinary amplitude of satisfaction incident to a frequent enjoyment of the privileges of the state of marriage. Her delivery, when her period of gestation arrived, was attended with great difficulty; or rather she died in the midst of the struggles of parturition. On exposure of the genitals after death, the clitoris was observed to be of the size of the male organ. The periods of greatest salacity of the subject of this miserable case had been those of the beginning and end of spring in every year; and at those times there emanated from her person a strong offensive odour similar to that of goats. Her inordinate propensities were represented as having been in some respects hereditary. *Dict. des Sciences Medic. Art. Nymphomanie.*

The daughter of a gentleman of some distinction, residing in the neighbourhood of Halle, became the subject of an unusual variety of convulsions, before she had yet completed the twelfth year of her age. Her features were sometimes distorted by the symptom technically called the sardonic laugh. It was observed as a remarkable circumstance in so young a subject, that her nipples were protuberant to the altitude of a finger's breadth; the mammæ themselves being also plump and full. Of other parts of her body she suffered a constant

pruritus; and it was particularly remarked that she very frequently sought to relieve herself of an irritation of her genitals by the ordinary action of scratching. Dr. Stegmann, who expressed a great desire of knowing something further about a case so extraordinary, was informed by an old woman whose business it was to wait upon the patient, that it was rumoured in the family that she had fallen in love with her tutor, whom the father had consequently dismissed from his house; and that after such dismissal the young lady began to grieve, and, in short, that she fell into a melancholy which had daily increased upon her until the present most lamentable symptoms manifested themselves. After making certain absurd communications to the father on the subject of what he considered the proximate cause of his daughter's ailments, our learned reporter concludes his case by stating that he eventually accomplished a perfect cure of his patient's malady, by bleeding followed up by the use of cold emulsions, saturnine lotions, and other reputable aphrodisiacs. *Ephem. Germanic. dec. iii. an. 1, p. 21, obs. 13. Auctore Dn. D. Ambrosio Stegmann.*

When we consider the extraordinary conduct, the prodigious feats of sensuality, if we may so designate them, of some of the more accomplished courtezans of antiquity, it seems scarcely possible to resist the conclusion, not only that they were occasionally the subjects of nymphomania, as we may especially observe to have been the strongly impressed opinion of Marc Antony of the case of his own mistress, the celebrated Cleopatra; see Antony's letter to his physician and friend Soranus on the subject of that lady's incomparable prostitutions; but also that they were originally endowed with temperaments, and functionally if not structurally with states of organs, to which we might feel ourselves quite authorized to impute their more than ordinary liability to the disease. It is by this hypothesis alone that we can adequately account for the astounding performances in the same line of conduct of Messalina, the beautiful empress of the weak and cruel Claudius, as too indelibly recorded by the Roman satirist in the following passage:

“ Tamen ultima cellam

Clausit, adhuc ardens rigide tentigine vulvæ,
Et resupina jacens multorum absorbuit ictus,
Et lassata viris necdum satiata recessit.”

Of the same scene here so strongly painted, Pliny gives more numerically the particulars. *Die ac nocte superavit quinto et vicessimo concubitu.*

Again, women of previously perfectly modest lives and conversation, become sometimes the subjects of strong venereal propensities, which they do not always find it possible to conceal, in consequence and as an effect of morbid actions of one or more of the constituent organs of the genital system. We have already had repeated occasions to observe how nymphomania as in some cases, and a greater than ordinary intensity of the venereal oestrus as in others, have presented themselves as effects of the application of divers causes of irri-

tation to the more accessible parts of the genital system. Add the well known fact of the frequency of the connexion of nymphomania with preternatural developments, and other morbid conditions of the clitoris. In some of the dissections of subjects who had perished the victims of this disease, the strongest marks of inflammation and even of sphacelation of the vagina and of the inferior portions of the uterus have unequivocally presented themselves; whilst in others, diseased states of a more chronic character have been found to affect the uterus itself and its abdominal appendages. See the dissection already recorded in p. 446: consult also a case of nymphomania, attendant on disease of the neck of the uterus, recently published by Dr. Richard Bright, Reports of Medical Cases, etc., vol. ii. p. 464.

“Mrs. M., at the age of 74, became the subject of a most decided and violent nymphomania, with such aberration of mind, and such furious demonstrations of the peculiar turn of her feelings, as rendered it necessary, on several occasions, to subject her to personal restraint. She had been a stout, healthy woman, had been twice married, and was the mother of eight living children. During the continuance of this peculiar derangement, which lasted at intervals till her death, she was two or three times the subject of slight and transient paralysis, principally affecting the organs of speech; and she latterly became somewhat imbecile; and from being a remarkably active woman, became inert and listless; she lived, however, five years from the first attack of her ailments. *Sectio cadaveris*. The head was not examined; but the only disease discovered in the other cavities was a considerable calculus, apparently of cholesterine in the gall-bladder, and a peculiar and marked disease in the uterus. At the os uteri, and growing from it, was a tumour of a vesicular character, of the size of a large hazel-nut, containing a transparent fluid, and projecting towards the vagina. The cervix uteri itself was much thickened and hard to the touch, and on being cut through, two or three cysts of the size of peas were seen in its substance. About half an inch from the tumour just described, attached to one side of the uterus internally, another similar tumour arose, evidently composed of four or five cysts, parts of which were seen through the membrane which covered the whole. Having divided this tumour by cutting down upon it carefully, a cyst of considerable size was laid open in the body of the tumour, and from the bottom of that arose a globular vesicular body. Still farther along the internal cavity of the uterus might likewise be seen indications, though less obvious, of similar vesicles forming within the substance of the organ; and it was to be inferred that the larger tumours had like them formed beneath the mucous lining of the cavity, and had by their enlargement forced the membrane before them, and thus become prominent above the surface. I was not myself present at the examination, but was favoured by Mr. Mountford, who had attended the patient, with the morbid parts as soon as removed; and although, perhaps, some further light might have been thrown upon the case had the brain been examined, yet it is possible that no material organic change existed in the

head. At all events, the case is interesting as showing a state of the uterus which was no doubt chiefly instrumental in determining the character of the mental disease. When I first saw the external tumour, I thought it depended on an obstructed and enlarged condition of the glands of Naboth; but from the internal structure of the morbid growth, and from the traces of similar vesicular bodies in the substance of the organ, it may probably be considered by some as an incipient malignant disease."

A young lady, already nubile, accustomed to an easy and luxurious life, conceived a secret affection for a young man of inferior condition to that of her own family. Disappointed in her hopes of being united to him, in consequence of strong objections on the part of her friends to the proposed alliance, she became the subject of a strongly characterized nymphomania. At first she lost her sleep, and soon after became outrageously vociferous, indulged in an indelicate exposure of her person, sang obscene songs, and conducted herself in other respects like a furious bacchante. The least resistance appeared to rouse her to the performance of new feats of inordinate activity. She was attempted to be bound down to her bed; but her bands, together with the assistance of two or three men, were found scarcely competent sufficiently to restrain her movements. She threw herself into all possible extravagant attitudes; and after having succeeded in temporarily recovering her personal liberty, she flung herself, naked and furious, into the arms of the first man who came in her way, and besought him suppliantly and with ardour to relieve her of the importunities of her impetuous sexual passion. At this time her countenance was greatly inflamed, and peculiarly expressive of the agitated state of her feelings. Her breath was fœtid, her tongue dry, her eyes were glistening, her acts were in many respects deceptious; but her appeals were full of sweetness. She was the subject for some time of an acrid, yellowish, viscous, and an almost corrosive discharge from her vagina; and she eventually sank into a state of extreme emaciation. A physician who was consulted in her case caused her to be bled THIRTY TIMES WITHIN SIX DAYS. By so doing he indeed restored to her her reason; but while he relieved her of her mad passion, he at once robbed her of her life and of her beauty, which was almost divine. "*VESANUM AMOREM, VITAM, RARAMQUE SIMUL ET FERE DIVINAM VIRGINI PULCHRITUDINEM EXHAUSIT.*"

Sectio cadaveris. The clitoris was of an unusually large size, as were also the ovaries; and the Fallopian tubes were sufficiently developed to give lodgment to a full-grown pea-shell.

Another young lady, also nubile, and leading an indolent life, conceived a strong attachment for a young gentleman who was already a relative of her family. She soon afterwards lost her sleep, or passed whole nights in painful dreams; whilst in the day-time she indulged in all manner of noisy, unconnected, and lascivious conversation. Her conduct towards individuals of the other sex was similar to that of the subject of the preceding case. Connected

with these very extraordinary symptoms, an acute continued fever supervened; and on the fourteenth day of her disorder she died a helpless and much to be pitied victim of nymphomania.

Sectio cadaveris. All the viscera were found in a healthy state, excepting the uterus, which was become the subject of active inflammation, together with the ovaries and Fallopian tubes, to which the same inflammation had extended. Louyer Villermay, loco jamjam citato.

In a case of nymphomania rather too briefly sketched by Blancard, of which the subject died in the course of a very short time after the accession of her malady, the right ovary was found enlarged to the size of a man's fist, and containing a corresponding quantity of serosity. Blancard, *Anatom. Pathol.* obs. 99.

In the greater number of cases of nymphomania, complicated with chlorotic melancholia and hysteria, so far as any attempts have hitherto been made to illustrate them by pathological anatomy, the uterus itself, or its abdominal appendages, or both, have been found structurally diseased. Stephan. Blancard, *Collect. Physico. Medic.* obs. 28, p. 1. Carol. Gesner. *Act. Physic. et Medic.* vol. vii. obs. 20. Ephem. Germanic. cent. iii. et vii. Auctore Fried. Lochner. Christ. Helwich Ephem. Germ. cent. iii. et xi. It should however be observed, that structurally diseased conditions of organs presumed to be principally concerned in the phenomena of diseases of long standing, cannot in all cases be admitted to be causes, inasmuch as they might frequently be almost absolutely proved to be effects of such diseases. To illustrate this point let us suppose a case of sudden suppression of the menses in the instance of a perfectly healthy subject, CONSEQUENT ON THE APPLICATION OF COLD OR SOME OTHER WELL-KNOWN EXTERNAL CAUSE. Anteriorly to the application of such cause, we must presume the subject of the phenomena subsequently manifested to be in possession of perfect soundness of all her organs and their functions. But the morbid action resulting from the application of the supposed cause of the suppression is not subdued; amenorrhea with chlorosis becomes an established malady; the usual symptoms of a cachectic condition of the system supervene in a more or less rapid succession; and the patient ultimately loses her life. On inspection of the body of a person dying under such circumstances, any intelligent practitioner and pathologist would naturally expect to meet with certain diseased states of the uterus or of its abdominal appendages; which diseased conditions, either with or without structural diseases of other organs, might indeed very truly be considered as the cause or causes of the patient's death; but not necessarily in any sense nor in any degree the cause or causes of her original indisposition. In like manner, of the disease under consideration, the nymphomania might be the immediate result of an adequate moral cause, or of some accidentally applied physical agent; and if the disease should assume a periodical form, or arrive at a chronic stage, the appearances after death which might be expected under such circumstances to be found would

be to be considered as EFFECTS OF THE VESANIOUS DISEASE AND THE CAUSE OF THE PATIENT'S DEATH, BUT NOT AS THE CAUSE OF THE ORIGINAL MALADY.

In the greater number of cases, we may presume nymphomania to be proximately the result of an increment of action or of more than ordinary excitation of the constituent tissues of the sexual organs. In what such increment of action may consist, and whether it must essentially be a morbid state of nerves or of blood-vessels or of both; and what amount of such excess of action may be required for the production of the effect in any given case, are propositions which our present state of knowledge does not enable us satisfactorily to solve. It may be assumed as a fact, that in all acute cases ending fatally in the course of a few days or weeks, evidences of intense inflammation of the genitals have been found after death; whereas also in more secondary and complicated cases, where the malady has arisen more gradually and the fatal event has been more retarded, the appearances on dissection have not been devoid of striking evidences of the presence of inflammation. Nevertheless inflammation, whether of an acute or chronic character, whether terminating quickly in fatal sphacelus, or eventually but equally fatally in more extensive chronic ulcerations of the tissues implicated, cannot be considered essentially and per se as the proximate cause of nymphomania, otherwise nymphomania would be a disease of daily occurrence in every country. Inflammation of the organs in question under a considerable variety of forms is indeed a morbid condition of them of constant occurrence; but nymphomania is a malady which happily is so seldom met with, that even now there are comparatively not many authentic cases of it on record. It would seem therefore to follow that, inasmuch as we have no evidence of its having ever existed without inflammation of the sexual organs, whilst nevertheless these organs are liable to the most dangerous and fatal inflammations without at the same time becoming the seat of this particular phlogosis, nymphomania must be the effect of some peculiar kind of inflammation, a form of inflammation sui generis of most rare occurrence, of which we know little or nothing beyond this extraordinary effect of it, or that it must be the result of one or more of the common forms of inflammation plus something else, or some rare modification of inflammatory action with which we are not yet acquainted.

Hence the moral extravagances incident to the presence of the malady under consideration are at least an accompaniment, and probably also an effect, of a certain phlogosed condition of one or more of the organs which constitute the genital system. But it has been moreover observed, that the physical condition here supposed has itself not unfrequently resulted from the influence of a specific moral cause; viz. that of love, and love's misfortunes and diseased excesses: a cause in fact so intimately connected with the appetencies of the genital system, as sometimes although erroneously, to have been actually confounded with them. The connexion here presumed between the sentiment and

the passion is indeed notorious and undeniable; and there can be no doubt of the competency of the sentiment, when morbidly and extravagantly entertained, to produce diseased states of the passion and of its appropriate organs. So much importance has been ascribed by some very excellent writers to the influence of love's waking dreams and distractions in the production of nymphomania, that they have been induced to represent it as almost the only cause and as forming the first stage, and therefore no inconsiderable part, of that disease itself. In commencing his description of nymphomania as a malady of youthful subjects, M. Capuron expresses himself as follows: "AT FIRST it is only a species of melancholy or of Platonic love, in which the mind is profoundly occupied with the idea of the beloved object; whom, although it may not seek, it is in the constant fear of losing. The desire of venereal gratification forms then no part of the young female's torment; but she dwells with much sweet satisfaction and complaisance on the fond contemplation of him who has captivated her heart; picturing to herself his personal qualities as so many interesting examples of perfection which she admires in silence. In the midst of this illusion she seeks solitude, where she may sigh more at her leisure, and where she may at once conceal and feed the flame which is soon to envelope her. In society she is dull, pensive, and taciturn; continually distracted, and inattentive to the conversation which takes place in her presence. Whatever amuses her companions is insipid to her. What passes in her own heart absorbs her entire being. But in the event of the arrival or announcement of her beloved, or even of his becoming the subject of conversation, or although it might only happen that his name was merely mentioned, then the whole scene changes. The eye acquires additional animation, and the countenance an accession of colour. The heart palpitates, the respiration is quickened, and the voice trembles and sometimes becomes so weak and faltering as actually to be extinguished on its passage over the lips. In the mean time the malady is making rapid progress and becoming daily more exasperated. The imagination becomes more and more exalted. That which at first was only a sweet affection, a tender sentiment, becomes quickly changed into a violent passion, into a consuming fire. THEN the mind comes to be occupied with obscene ideas. The patient loses her appetite, as also her sleep and natural repose. Her body sustains an elevation of temperature, and the genital organs become the seat of an unsupportable pruritus. At length extreme salacity and strong venereal desires acquire an ascendant over all other passions; so as to leave merely a remnant of modesty as a feeble restraint on future behaviour. But the fire within by thus being only feebly checked becomes more ardent, and eventually bursts into full explosion. From that moment the nymphomania, without arrest or obstacle, follows the impulse of nature, and the unhappy patient abandoning herself to the direction of her will, her imagination seeks nothing beyond the gratification of her master passion. . . . Finally, the disease degene-

rates into a mania of the most furious character, etc." *Traité des Maladies des Femmes*, par J. Capuron, M.D. etc., Art. v. p. 77. Paris, 1812.

Now it seems to the author that the above representation, beautiful indeed and very correct as a description of erotomania, is only to a certain extent, and therefore partially, a faithful picture of the phenomena of nymphomania. It may indeed be allowed to be sufficiently correct in its application to one class of cases; viz. that of which the Platonic love described by M. Capuron is presumed to be both the cause and an antecedent of the nymphomania: but as a general description of the disease in all its forms and under all circumstances, it is necessarily and very obviously imperfect; inasmuch as cases of nymphomania have often existed which were neither produced nor even preceded by Platonic love, and others of most impassioned and extravagant love, of love which has even terminated in frenzy or permanent erotic insanity, which had not been either accompanied or followed by nymphomania. Hence the nosological epithets erotomania and nymphomania at the head of the present article are not in fact synonymous; the former in correct language being the madness of love considered as an affection of the heart, and the latter a disease of the grosser sexual passion more immediately subservient to the propagation of our species. Nymphomania is a quotient, or rather an equivalent expression of a positive physical malady, whilst erotomania is the sickly and melancholy sport of a frenzied imagination, having a department of the mind's active powers little known to pneumatologists, resulting from certain specific actions of vital tissues scarcely better known to anatomists for the substratum of its extraordinary operations.

"Tell me, where is fancy bred? Or in the heart, or in the head?
How begot, how nourished? It is engendered in the eye, by gazing fed."

In erotomania, a woman often loves in perfect purity and chastity, and continues to love with such excessive ardour and tenderness, although with an entire absence of the specific importunities of sexuality, that she at length loses her reason. This variety of vesanious disorder is almost always at its commencement a monomania; one single subject, one fond picture of contemplation, warmer as to its colours than was ever pencilled by artist, and forming a matchless beau-ideal of all imaginable excellences in man, being almost exclusively permitted to occupy the patient's mind. In its progress, however, it becomes extended as to its boundaries, as happens also in other forms of monomania, until it at length terminates in the wild and half idiotic craziness, which we should really fancy if so permitted, especially to characterize the interesting but most commiserable victims of this disease.

There is much reason for believing that erotomania is frequently a produce of very weak minds; i. e. of minds liable to be strongly acted upon by the more influential affections and passions, while but feebly guarded by the powers of the

understanding. Mrs. W. B., born and educated a Quaker, was married at an early age to a gentleman of the same persuasion, who might be about fifteen years older than herself. The marriage was without issue. After the lapse of five or six years, it became publicly known that the lady's affections were greatly alienated from her husband, without however being improperly attached to any other person. Sometimes she lived in great retirement for many months together; at other times she was observed to take frequent walks into the neighbourhood of the town where she resided, and often into woods and other retired places, at considerable distances from her own home. Her walks, however, were always solitary and silent; for she seldom looked up or spoke even to persons whom she familiarly knew when she casually met them in her wanderings. In her manners she was rather distant and reserved. One of her principal peculiarities was fondness for dress, which, although seldom in good taste, was always gay and expensive, and obviously in studied contrast with the peculiar garb of the Society of Friends with whom she had not then entirely ceased to associate. When she supposed herself quite alone or in the presence only of her maid, she constantly indulged in a variety of little acts and movements which betrayed an extraordinary admiration of her own person, which indeed in many respects was a fine one, although sadly destitute of that animation of the features, the natural index of a fine soul within, which is essential to the finish and crowning of the fascinations of a lovely woman. Such briefly were the person and character of Mrs. W. B., when without previous acquaintance or introduction she became an easy victim to the seductive advances of an unprincipled military officer. The intercourse which followed was carried on in circumstances so unusual, that the lady's soundness of understanding became speedily a subject of conversation and impeachment; and in the course of some five or six weeks subsequently, she was pronounced insane by competent medical authority. In short she became the subject of a mild variety of erotomania, of which the object was the recruiting officer. The author had professional opportunities of knowing that the aberration of the mind, in this case, was in no degree combined with nymphomania. Time, and absence of several months from home, and judicious professional treatment of the case during that period by the late Dr. Arnold of Leicester, had the effect of restoring the patient both in mind and body, for both had sustained considerable derangement of their functions, to a tolerably satisfactory state of strength and soundness.

The author recollects to have seen one case of mental aberration of a very mild description, which, although the subject of it frequently made use of indelicate language, and adverted necessarily upon such occasions to certain indelicate acts, he verily believes never amounted either to erotomania or nymphomania; inasmuch as it never appeared to him to involve any peculiarly morbid excitement, either of the affection or passion especially interested in those diseases. The subject of this curious case was an unmarried woman of about six-and-thirty years of age, and an inmate of a workhouse. Its chief peculiarity

was, that whenever she felt herself aggrieved by the people about her she threatened and made attempts to send messages to the overseers of the poor, to inform them of her determination to avail herself of the earliest opportunity to commit acts of venery in order to add to the expense of her support by the parish, and expressly as a measure of revenge for the bad treatment which she pretended she had to submit to from the domestics and other functionaries of the establishment.

The following case of erotomania is submitted to the reader as an example of the disease in one of its most intense forms, and as presenting a picture of its characteristic phenomena more than usually crowded. "A lady, aged 32, of a tall figure and strong constitution, having blue eyes, light complexion, and auburn hair, had received her education at an establishment of great eminence, where the most brilliant anticipations, sustained by the highest pretensions, were wont to present themselves to the imaginations of its fair occupants. Some time after her marriage, she met with a young gentleman of a superior rank to that of her husband, and had the misfortune of becoming almost immediately and violently enamoured of him. Of this unhappy incident one of the earliest results was, that she became dissatisfied with her situation in life, and felt a disposition to despise her husband. Soon afterwards she refused to live with him, and eventually took so great an aversion to him as well as to all his friends, that any attempts on their parts to persuade her to return to a proper consideration of her best interests and duty proved totally unavailing. The evil increased, and it became necessary actually to separate her from her husband. She spoke incessantly of the object of her passion. She became difficult to please, capricious, and irascible. On one occasion she effected her escape from her friends, and ran, as she represented, in search of HIM, whom she fancied she every where encountered, and whom she addressed in strong and impassioned language, as the most beautiful, the most majestic, the most spiritual, the most amiable, and the most perfect of human beings. She expressed a perfect assurance that she was his wife, and that she had never known any other husband. It was he whom she saw pictured in her heart, who directed its movements, who ruled her thoughts, and who governed her actions. She professed already to have had one child by him, who would no doubt one day be accomplished like his father. She was not unfrequently found as if overwhelmed with ecstatic transports; when her attention was steadily fixed, with only the relief of a sweet smile which ever and anon played beautifully on her lips. To HIM she often addressed herself in letters and indited verses full of passionate expressions. Of these some were copied and left about her room, and thus became an evidence of the most perfect absence of her thoughts from all movements of the sexual passion. When she walked she moved with a hurried step, as if intensely occupied; or else she walked slowly and with firmness. She avoided, if possible, every chance of meeting with men, whom she despised as being greatly inferior to the idol of her own diseased fancy. On

the other hand, she was not always indifferent to demonstrations of kindness shown her even by individuals of that sex. But by any expression which she fancied not sufficiently respectful she was easily offended; when, as well as on all other available occasions, she seldom failed to introduce the name, the merit, and perfections of him whom she adored. She often, both in the day time and during the night, talked to herself, sometimes in a loud voice, at other times in a low one. In her solitary conversations, she laughed, cried, and was violently angry by turns. If she was reminded of her loquacity, she replied that she was forced to it, and most frequently by her lover; who found means, which were known only to himself, of communicating with her. She believed that jealous people sometimes interfered to disturb her comfort and to interrupt her conversations; and that on such occasions she did not always escape personal violence. At other times and under particular circumstances her face flushed, her eyes sparkled, and she was transported with fits of violent passion with any body and every body who came in her way. During these paroxysms she lost all cognizance of her relatives and friends, often became exceedingly furious, and made attempts to inflict personal injuries on those who had the care of her. This state of things sometimes continued for two, three, eight, and even fifteen days. During the raging of those tempests she was very liable to be attacked by severe bodily pains, which she referred to the epigastrium and the anterolateral region of the left cavity of her chest. These pains, which she fancied she could not by possibility sustain without the aid of an adequate power from her guardian lover, were inflicted upon her as she believed by her relatives and friends, who might at the time be at the distance of many leagues from her; or, as she supposed on other occasions, by the persons immediately about her. An appearance of great force produced an imposing effect upon her: so that when it became necessary to make a show of that kind, she became pale and trembling; after which her paroxysm soon terminated in a flood of tears. This lady could speak perfectly rationally on all subjects foreign to that of her peculiar hallucination. She could work and superintend the management of whatever concerned her own interests and convenience. She often did justice to the merits of her husband and to the kindness and tenderness of her friends. But she could not be induced to see nor to live with the former, nor on that subject, and occasionally on others, to avail herself of the advice and earnest recommendations of the latter. Her menses were regular and abundant. Her paroxysms of angry passions most frequently took place during the period of menstruation; but their absence at other times could not always be counted upon. Her appetite was exceedingly capricious, and all her actions more or less participated in the disorder and wild whimsicalities of her delirious passion. She slept but little, and her sleep was disturbed by dreams and harassed by the night-mare. She was subject frequently to long protracted sleeplessness; and when thus she did not sleep at all, she walked, talked to herself, and sang. This state of things continued for many years. A methodical treatment during

one year, together with warm and cold baths and pumpings, and the use of antispasmodics both internally and externally, were found incompetent to restore her to her reason." Esquirol. *Dict. des Sc. Medic.* vol. xiii. p. 187.

The same experienced writer observes that erotomania does not always present decided characters, such as are found exhibited in the above case. Sometimes it is masked under deceptious appearances, when it is more fatal. Then the patient is not bereft of her reason, although dull, much dejected, and taciturn; and she sooner or later becomes the subject of a fever which Lorry called erotic fever; a fever of which the type is more or less acute, and the event almost always disastrous. During the progress of this disease it may easily be confounded with chlorosis; but the mistake may be as easily corrected, if the physician, after having duly put himself in possession of all the known facts of his case, takes also adequate pains to observe its existing symptoms and progress. The patient's countenance will be found more than usually expressive and animated. The pulse, always more frequent than naturally, is liable to become much accelerated and strong, as well as convulsively disturbed at the sight of the object beloved and even on hearing his name pronounced in conversation.

A young woman, the subject of this form of the malady, expressively in English a love-sick maiden, without any obvious physical disorder, and without any other known cause, becomes spiritless and dejected. Her countenance becomes pale and strongly featured, and she is often observed to shed tears. She has spontaneous lassitudes and sighs often, sometimes more sometimes less deeply. Nothing is permitted to amuse, nor scarcely any thing to occupy her. All is listlessness and ennui. She shuns as much as possible the society of her friends, even that of the members of her own family. Her appetite becomes capricious, and she ceases to be able to sleep; or if she sleeps, her rest is broken and disturbed. She eventually sinks into a state of emaciation. If under these circumstances marriage should be proposed to her, and her friends perchance might think that such a consummation might at once be made useful to her health and acceptable to her heart, at first she might seem somewhat listlessly to entertain the affectionate suggestion; afterwards however she would probably reject any positive proposal of that kind with obstinacy. The disease makes fatal progress. A fever of a hectic character is established in the system. The pulse becomes quick, frequent, and unequal, and sometimes exceedingly irregular, as if produced by a structural disease of the heart. In other cases the nervous system would appear to become a principal party in the general disturbance, as proved by the occasional occurrence of convulsive movements, nervous palpitations of the heart, and disturbed actions of the understanding, not always unaccompanied by minor irregularities and extravagances of conduct. The grave at length closes on the patient's fatal secret. Such is a description of a mild but eventually fatal variety of erotomania.

The following case may be perused as an example of an acute case of the

same disease. "A young lady of Lyons became desperately enamoured of a young gentleman who was already related to her, and to whom it had been arranged she was to have been married. Circumstances however occurred to prevent the accomplishment of the promises which had been given to the young people; who, it now more than ever appeared, were strongly attached to each other. The young lady's father pronounced his request that the lover's visits might be forthwith discontinued. That young gentleman had scarcely taken his leave when his lately affianced relative fell into a profound melancholy; became taciturn, obstinately declining conversation in every form; took herself to her couch; and refused all food. All her secretions became suppressed. In the mean time, she rejected all the services which religion could offer to her, and all the consolations of her friends. After five days were employed in vain attempts to subdue her resolution, it was determined to recal her lover. But it was then too late; for on the sixth day she expired in his arms."

When erotomania is less rapid in its progress, and at least in some respects less disastrous in its termination, it often degenerates into a monomania of a comparatively reduced tone, and eventually, as has been already hinted, into a delirium on a more extended scale of subjects. In a majority of cases, this latter mixture of discordant elements eventually subsides, in common with most other forms of monomaniacal disorders into chronic and incurable fatuity.

The distressingly acute miseries incident to erotomania have too obvious a tendency to impel its unhappy subjects to the commission of suicide. Sappho, it will be recollected, unable to brook the desertion of Phaon, threw herself over the Leucadian rock (Stat. v. 3, 154. Herodot. ii. c. 135); whilst, since her age of splendid verse and frantic love, her humbler successors under similar circumstances have perished by so many modes of self-destruction as scarcely to have left room for the possible suggestion on that subject of a new invention.

Erotic delirium, hysteria, and nymphomania, are so intimately allied as so many morbid phenomena inseparable from the consideration of sex in women, that they have often been severally causes, effects, and complications, of each other. In the male subject erotomania has not unfrequently been a cause of epilepsy; whilst in the female its more common consequences have been hysteria, suppressed menstruation, and chlorosis. We have already seen that less frequently it has been followed by well-marked nymphomania. A more general result, however, of amorous melancholy is its lapse in the first instance into mania, and its eventual submersion in hopeless idiocy. It is very remarkable in cases of females how the most trivial circumstances have often sufficed to give something of an erotic character to vesaniou's affections, which, under other circumstances, could only present the ordinary attributes of the simplest mania.

"An unmarried lady, aged 32, overwhelmed by the loss of a very considerable fortune, sought the situation of an assistant to a celebrated professor of the French metropolis, whose instructions with that view she once attended. From that

moment she never ceased to speak of that professor. Very soon afterwards she believed herself pregnant by him. Her menses became suppressed; which confirmed her in her conviction of being pregnant. Certain painful affections of the hypogastrium consequent upon the suppression of the catamenial function furnished her with additional proofs of the presence of a fœtus in the uterus. She became rapidly emaciated. Soon after the explosion of her disorder she became the subject of a thousand illusions of the sense of hearing, which moreover most frequently had reference to the professor already mentioned; whom she fancied to be present, or sufficiently near to be spoken to and to honour her in return with his conversation and advice. She often refused all nutriment; and when she could be induced to take any food, it was only in consequence of its being intimated to her that it had been brought to her in compliance with the orders of the professor. When she consented to eat at all, she usually ate plentifully. During eighteen months she occupied herself in making baby linen for her expected infant, and in making short clothes for it against the time when it should be weaned. She would often walk barefoot on the pavement in order to bring on labour pains; such pains having been represented to her as indispensable in order to bring a child into the world. She would also not unfrequently throw herself into fits of great agitation; during which she called with a loud voice on the father of the child of which she supposed herself pregnant. Sometimes she had pretty long intervals of reason; but more frequently she spoke deliriously on all subjects. She occasionally became very furious on the subject of her absent lover, when she fancied that she was prevented by her attendants from seeing or going to seek him when he called upon her. It is remarkable that this young lady has never once spoken to her idolized professor, and that she never saw him more than once. It is also deserving of particular notice that her conduct had been in all respects most reputable up to the period of the accession of her malady." Esquirol, *loco supra citato*.

The following sketch may be perused with some interest, as furnishing an example of a mixed case of insanity and sexual phlogosis, consequent upon the morbid actions of a typhus fever. A lady, aged 28, of good constitution, had received a brilliant education. Possessing a splendid fortune, with many other very substantial advantages over most young persons even of the same age and rank with herself, she was married at seventeen. Up to that period she had known nothing but happiness. Two premature and otherwise unprosperous confinements produced a considerable impression on her health, and still more manifestly on her spirits. She had looked forward with extreme anxiety to the period when she should become a mother; but in that hope she was thus twice disappointed. Soon after the latter of these results she set out to America, where she was destined to become the sport of new misfortunes. During her convalescence from a typhus fever, she excited great attention by the display of an unusual degree of volubility, which however was unaccompanied by any

incoherence of ideas. On the fifth day of her disorder she principally occupied herself in making silly purchases, and in committing other acts of senseless extravagance and folly. In the course of these proceedings she was observed to make demonstrations strikingly indicative of the fact that she was become the subject of nymphomania. In the midst, however, of her outrages upon modesty, in heedless violation and contempt of the salutary influences which usually govern the conduct of virtuous and well-bred women, it could be pretty easily discovered that she still, in some degree, remained possessed of her thinking faculty, and especially of the power of associating her ideas on the subjects most material for her then-morbid associations to be detached from. She was accordingly immediately withdrawn from society and placed under a judicious private surveillance, where also she had the advantage of the most skilful combinations, both moral and professional, for the due management of her case. Whilst being thus treated on the most approved principles of medical science, the malady exhibited several changes of character, and amongst others a strong manifestation of a propensity on the part of the patient to the commission of suicide. At length the enlightened cares of her physician, Dr. Sauvée, were crowned with the best results, and she was restored after no protracted confinement to perfect health. Villermay, *Dict. des Sciences Médicale*, vol. xxxvi. p. 583.

In the greater number of cases of nymphomania reported during the discussion of the present article, it may be observed that the disease supervened, either suddenly and unexpectedly, in consequence of an accidental exposure to the influence of some striking and peculiar cause, or of some adequately powerful cause in peculiar circumstances; or more slowly and gradually as an accompaniment or result of a chronic disease of some part or parts of the genital system. Some foreign writers have greatly insisted on the influence of forced and protracted celibacy, and of the absence of the means and opportunities of sexual intercourse under whatever circumstances, as a prolific cause of the disease. This doctrine appears to the author not to be sufficiently sustained by evidence from facts. It seems necessary that accessorially to the circumstances of non-enjoyment of the opportunities referred to, there must also exist, either continuously and constantly, a state of great predisposition to the disease from physical or moral temperament, or that there must be presented adventitiously the influence of some sudden disappointment either of the sentiment or passion more immediately interested in the disturbances incident to the malady, or some eventful disruption of long and fondly-cherished associations less obviously, perhaps, but not less necessarily productive of similar disturbances. There are no facts, as far as the author is aware of, to prove that any of the vestal virgins of antiquity or any of the Christian vestals of modern nunneries, although not unfrequently quoted as subjects of hysteria, ever became victims of nymphomania. Again, the very rare occurrence of nymphomania can scarcely be deemed to consist with the fact, that in the more peopled and civilized countries of the

world, thousands and tens of thousands of the fair sex are condemned to perpetual celibacy.

Another class of writers, with more plausibility, but at the same time not without some disposition to exaggeration, have represented nymphomania as a disease of the genital system, resulting from an unrestrained licentiousness and an unlimited indulgence of the sexual passion, including all sorts of depraved practices by which its appetencies have ever been gratified. The vices to which the latter part of this statement is especially intended to apply, were at one time almost endemic at Lesbos and other Greek islands, as well as antecedently to the period alluded to in ancient Egypt, and subsequently to it among the Romans; and yet there scarcely exist any positive records of nymphomania having been recognised as effects of them. A similar remark may be made in reference to all kinds of sexual vices, early and premature debaucheries of which even the names should not be known or repeated, but which were practised with publicity and without disgrace in almost all the more southern countries of Europe before the introduction of Christianity.

Of the fact and varieties of the disgusting sensualities and prostitutions of the ancient nations, both of Asia and Africa, the evidence is abundantly ample, and yet without being accompanied by any satisfactory proof, excepting perhaps in one or two cases, of their having been productive of nymphomania. See testimonies to this effect in the writings of the Old Testament. Gen. ch. xix. xxxv. 5. Exod. xxii. Levit. xviii. 21. Judges xix. 1 Kings v. Ezekiel xxiii. Persons who may be disposed to pursue this more curious than profitable subject further, may peruse the following authorities. Herodot. Hist. cap. clxxxii. et cxcix. Strabon. Geograph. lib. ii. Valer. Maxim. lib. ii. cap. 6. Lucian. de Dea Syriaca. Evagr. Hist. Eccles. lib. xxi. cap. 2. Augustin. de Civitat. Dei, lib. iv. cap. 10. Theodoret. Hist. Eccles. lib. i. cap. 8. Euseb. vita Constant. lib. iii. cap. 53. Lactant. de Falsa Religione, lib. i. cap. 21. Fêtes et Courtisanes de la Grèce. Paris. 4 vols. Pornograph. Paris, 1766. Theocrit. Pharmaceutr. Virgilio, Eclog. viii. Tacit. Annal. lib. ii. Martial. Epigr. 66. Horat. Od. vi. Juvenal, Sat. xi. et Art. Aphrodisiaque, Dict. des Sciences Médicales.

As to the few cases which have been recorded in modern times of nymphomania imputed to excesses in the indulgence and other abuses of the sexual passion, several of them are mere descriptions of strong libidinous propensities unattended by any aberration of the understanding, although in one or two of them there had been manifested a state of considerable phlogosis of the genital organs. "A lady, 49 years of age, of a sanguineo-nervous temperament, experienced at a very early age peculiarly strong sensations, and a propensity very remarkable for her period of life for sexual gratification, from which her will however was most averse. She menstruated when she was only eleven years of age; and when she was thirteen she had arrived at her full stature. At seventeen she was married to a gentleman aged thirty-six, vigorous, and well disposed to do justice to the obligations of his new relationship. The rights of the con-

nubial state were indeed celebrated so frequently as on the part of the lady to produce fatigue: *LASSA AUTEM FUIT SED NON SATIATA*. A statue, a picture, or the living view of a man, the simplest touch, even a word, was sufficient to produce violent desires. During the night, in her dreams, she retraced with surprising vividness the lascivious pictures which had occupied her imagination in the day time. *IT DESERVES PARTICULAR NOTICE*, that in society this lady imposed upon herself so much reserve that she never betrayed the actual state of her propensities, which however, at the same time, so greatly embittered her existence. At the age of forty she gave birth to her eighth child. In seven years afterwards she ceased to be regular; and at forty-nine she was left a widow. Two months of absolute continence had scarcely elapsed when she became the subject of most violent desires, of a sense of great heat, and of a constant spasm in the genital organs. The night, as may be supposed, was the season of her greatest sufferings in these respects. She slept but little; whilst her waking hours were unremittingly occupied by libidinous thoughts. When, on the other hand, she slept, dreams the most erotic floated on the movements of her restless but unconscious spirit. Overcome by the force of her peculiar appetencies she sought relief some few times in acts of solitary humiliation, which however yielded her no permanent satisfaction.

This lady, whose disordered passions were alone attributable to the peculiarity of her organization or temperament, never made use of a word or an expression, even during her paroxysm, which reflected dishonour upon her: so that in fact her conversation presented a remarkable contrast with the state of her sensations, and with that of her imagination. The presence of two young ladies, her daughters, so perfectly sufficed to keep her within proper bounds of self-restraint, that they never so much as suspected the real nature of their mother's indisposition. Without this salutary and daily restraint, it is not at all improbable that the malady might have terminated in an entire alienation of the understanding. The case was treated by baths and hip-baths, refrigerant drinks, orgeat, lemonade with nitre, sedative draughts, and enemata of the mucilage of lint seed. During eight days the patient derived no manner of relief from these measures, nor did she enjoy scarcely any repose. On the morning of the ninth day she was bled from the arm, by which a calm was obtained of twenty-four hours. On the following day a state of great uncomfortableness was experienced, together with contractions in the region of the uterus, and especially towards the clitoris, without however being accompanied by any distinct pains or shootings of those organs.

The patient was in a great measure unable to sit, on account of the additional pain which she had to sustain in that position; which also had the effect of greatly exasperating the irritation of the external genitals. In walking she was obliged to move very slowly and to separate her legs in order to avoid friction. She declined the assistance of an arm, beseeching at the same time that no one would approach her. She could even wish to be suspended by her

hair in order to be perfectly insulated. All her misery seemed to centre in the uterus, which she felt to be the focus, not only of her malady but of her general sensibility, and in some sort of her entire living being. It was then I advised the use of cold baths, which had the effect of wonderfully calming the spasmodic irritation of the genital organs, not however without being accompanied by a most unpleasant general trembling. A bath, somewhat reduced in temperature, and immediately followed by rest in bed, was observed in this respect to have a very agreeable effect, although it was succeeded by some slight return of the former symptoms. Cold and tepid baths were accordingly alternated for several days with perceptible mitigation of the symptoms; but the advantage was usually of only temporary duration. In the course of a few days subsequently to these results, the patient saw an end of her widowhood. From that time her symptoms gradually yielded." Villermay loco citato.

THE TREATMENT of the malady under consideration, like the subject itself, pretty obviously resolves itself into two principal branches, viz. that of the morbid sentiment, the diseased action being then at least primarily one of the heart; and secondly, that of the sexual passion.

With respect to the former, much of its most efficient treatment must consist in judicious moral management. One of the earliest and most dangerous effects of sudden disappointments in love, is an almost total abolition of the power of sleeping. Consequent upon this result is soon established in the system a constitutional excitement, amounting to a rapidly consuming fever. The patient soon loses her appetite, and becomes in a degree emaciated almost from the date of the first infliction of her great moral shock. The functions of the womb become speedily implicated in the general commotion, and soon after, if not indeed before, those of the understanding.

Of this description there are two or three great points to be principally and instantly attended to. In the first place there is a prodigious turbulence of the thinking faculty. Its excitement is constant, obstinately continuous, and rendered incapable of repose. This activity of the powers of the understanding is at once an effect and an accompaniment of an intense feeling of misery, constituting A DISEASE OF THE HEART, if we may be permitted to adopt a language more conformable to immemorial usage than literally descriptive of an actual fact in pathology. Thus no doubt the cerebral system is thrown, almost from the beginning, into a state of preternatural excitement. The patient becomes totally sleepless, and the cerebral excitement becomes of course daily exasperated. She loses her appetite, and becomes the subject of other important functional derangements. The leading feature in the case is the more than ordinary excitement of the cerebral system: but that is produced by the morbid activity of the thinking faculty, which again in its turn is the effect of the intense misery occasioned by the patient's sudden and deep misfortune. In the treatment of a case like this it is difficult to determine as to what feature or part of it should be taken up first. The great rule of removing the cause with

a view to the cessation of the effect will seldom be found applicable in cases of this description. Desertion of lovers and interferences of friends are generally final measures. Shocks of the heart, the reader of course will understand the expression metaphorically, like those of death itself, seldom admit of any substantial consolation. A new and more willing lover cannot always be found; and were that even possible, he would not be THE LOVER, the object, the idol of the heart's affection. The more practical points of the treatment which would remain, would therefore be to subdue or to mitigate the turbulent effects produced by the feelings and by want of sleep on the cerebral system. The most immediate and effectual mode of effecting this object would consist in the exhibition of adequate doses of opium. The quantity should of course be duly proportioned to the date of its first exhibition, and to some other circumstances which would readily suggest themselves to an intelligent physician. Under circumstances of this description a measure short of two grains and a half or three grains of solid opium, or its equivalent in any other form, as for instance in that of the muriate of morphia, or those of the black drop, or Battley's liquor opii sedativi, should not for one moment be thought of; whilst it might on the other hand be quite necessary to follow up any partial advantage obtained from the first dose by the subsequent occasional exhibition of smaller quantities, as e. g. of a third or a fourth of the original quantity every four or five hours. In this way the patient might perhaps so enjoy a few hours' sound sleep which at a recent period of her case would be a matter of prodigious utility to her. On the next day the tempest of the heart's affections might be expected to have abated something of its violence; whilst the events of the new day would probably furnish both motives and opportunities for new measures. In most cases of preternatural excitement of the cerebral system, it should be made a consideration of great practical moment whether the abstraction of from fifteen to twenty, or even thirty ounces of blood, should not precede the exhibition of opium. In a great proportion of cases there would be no doubt as to the propriety, not to say the indispensable necessity, of such practice; inasmuch as a full dose of opium without that precaution might only serve to increase the disposition to vigilance. The experienced reader need not be reminded that full doses of opium have a tendency to produce a disposition to sickness and vomiting, or rather to easy and repeated vomitings without much sickness, on the day subsequent to its exhibition. This would be a matter of trifling consequence, and should form no objection to its use. As a good accompaniment of opium, a pretty ample dose of calomel, or of blue pill, might in many cases be very advantageously exhibited. In those especially in which preparations of opium had been known to constipate the liver, the combination of an opiate with a mercurial preparation should be considered as quite proper and necessary. After the subduction or mitigation of the first acute symptoms, time contributing concurrently its silent and soothing influence towards mitigating in some small degree at least the moral part

of the evil, the professional attendant will have to extend his combinations with a view to the treatment of the case under the circumstances of diverse chronic forms of the disease, and ulteriorly in the sequel, under those of its morbid results on the constitution and on sexual system.

If by the strong measures to be adopted in the first instance, and perhaps to be repeated in the early progress of the malady, an explosion of mental aberration shall not have been prevented, it will then become a question of some moment in many families, how far it might be advisable to give the unhappy patient the benefit of a temporary seclusion from society. Such a measure, in most cases, might undoubtedly be expected to have the happiest effects on the issues of the case. The erotic malady is here of course presumed to have already assumed the form of an absolute derangement of the understanding; and on a province of professional practice, so peculiar in some cases and so extended and multifarious in others, we need not at present enter. In the event of other varieties of changes in the progress of the disease, the practitioner will necessarily be guided by general principles. Whenever it shall be found practicable, and not obviously incompatible with the future happiness of the subject of his case, he should use his best exertions to effect such reconciliations and changes of resolutions as may enable the rejected lover to return with honour to a renewal of his engagements. That accomplished, he would soon after have the pleasure of surrendering his case into better hands. Should the first and more acute symptoms gradually subside into a state of great dejectedness and melancholy, accompanied or likely soon to become complicated with suppressed menstruation and chlorosis, the best treatment under that form and stage of the malady would probably consist in a change of scene, and partially of society, travelling, etc.; in suitable exercise in the open air, in a judicious management of the organs and function of digestion, in the exhibition in the first instance of mild tonics, and afterwards of such as might be expected to act more powerfully. Tepid bathing, and especially salt-water bathing, at first also tepid but afterwards in the open sea, would probably very importantly contribute to improve his patient's tone of actions, both of body and of mind. The diet should be mild and nutritious, and such as the patient's appetite and likings, other things being equal, might enable her to partake of; and it should be varied, provided always it be wholesome and well adapted to the patient's case, as much as circumstances may admit of.

If the maniacal part of the disorder is only presumed from circumstances, and not positively known to be an effect of disappointment in an affair of the heart, it might perhaps be of some use to discover the particulars of the painful secret. An unworthy or discarded lover has sometimes very adroitly on the part of the friends, and most beneficially to the patient's interest, been superseded by another candidate of equal or even better pretensions. Arrangements of this kind are however better adapted for family consideration than for sound professional advice. It is indeed a matter of much doubt with the author how far the idea of any such negotiations can be entertained without a violation of correct

morals. At all events, it is quite certain that no such speculations should be either suggested or promoted, excepting with the understanding of their being accompanied by the most ample explanations.

In undertaking the TREATMENT OF THE MORBID PASSION more immediately concerned in this inquiry, the practitioner's indications will require to be founded upon a precise knowledge of the patient's physical and moral history, and more especially on that of the cause or of any series or combinations of causes, which may be known or suspected to have produced the disease. But inasmuch as an adequately comprehensive knowledge of all the circumstances of cases of nymphomania can seldom be obtained during a first or even a second visit, the physician will often find himself under the necessity of confining his first indication to the subduction of the more obvious and tempestuous effects incident to the malady; which indeed will generally present themselves very forcibly upon his attention under the two principal forms of an inordinate constitutional excitement, and of the local phlogosis especially characteristic of the disease.

To meet the important indication here proposed, an ample abstraction of blood will naturally suggest itself to a judicious practitioner as a first and indispensable measure.

If the disease be recent, the first general bleeding should be such as to produce full fainting; and it should be afterwards speedily followed up by the application of leeches to the genitals. When it shall be practicable to convey these auxiliary operators high up into the vagina, and as far as the orifice of the uterus, a number of them not exceeding eight or ten might suffice for one time; see p. 311 and 389: but if that could not be done, and it were only practicable to apply them to the external genital surfaces, the application at least of twenty would be required in order to obtain an equal amount of depletion from the uterine system.

On the removal of the leeches the patient should be placed in a tepid or sub-tepid hip-bath; where she might remain with great advantage for several hours; the temperature of the water to be duly proportioned to that of the central parts of her person and to the excited state of her circulation. This part of the treatment, whilst it should promote a continuous bleeding from the leech wounds, would also most probably be followed by much diminution of excitement of the general vascular system, as also by a corresponding reduction of the morbid fulness and phlogosis of that of the uterus and its appendages.

Whilst the above important services were being performed, the practitioner might usefully determine his attention to the treatment of the vesanious part of his case. He would probably find the temperature of the head, we are now of course supposing a recent case, to exceed that of the human body in a healthy state by at least four or five degrees as measured by Fahrenheit's thermometer. To effect the earliest possible reduction of this morbid development of heat in the head, could not fail to present itself to his mind as an object of scarcely secondary importance. This object would be to be obtained not by further

bleeding, which could not be either necessary or proper; nor by the application of a blister to the head, which most probably might exasperate the cerebral excitement already existing; but by the exposure of the naked scalp, the hair having been previously shaven off, to the continuous contact of a uniformly cold medium. If we suppose the patient upon being taken out of her bath to be immediately conveyed to bed, the most effectual method of reducing the temperature of the head would be to place it on an elastic pillow made with a beast's bladder, half charged with iced water or any other very cold fluid; the atmospheric air in the remainder of the bladder being carefully pressed out, the extremity of its neck properly secured, and the whole enclosed within a dry diaper napkin. If then the patient be made to lie on her back, the occipital part of her head will sink towards the centre of her cold pillow, so as to be exposed to a rapid reduction of its temperature. In special recommendation of this method of applying cold to the head in a recently developed case of nymphomania, the author may be permitted to observe, that certain prominences of the occiput are identified by phrenologists with what they suppose to be the seats respectively of the organs of AMATIVENESS AND PHILOPROGENITIVENESS. The coronal, parietal, and frontal portions of the head will be most conveniently reduced in temperature and kept cool by rapidly consecutive supplies of evaporating lotions.

The above measures having been duly accomplished, the bowels should be freely emptied by a full dose of calomel and jalap, or in case of obstinate constipation, by half a drop or even a drop of croton oil.

It would be the practitioner's remaining indication on the sequel of the same day, viz. the first day of his attendance, to endeavour to conciliate sleep by the exhibition of a powerful opiate. See p. 471.

On the second and some of the succeeding days of the disease it would probably be necessary to have recourse to a repetition of several of the measures now recommended for the first day's adoption. The local bleeding, e. g. might be required to be repeated, as might also the use of the sub-tetid hip-bath.

To ensure a successful application of leeches, whether to the orifice of the uterus, or to the external genitals, it would almost always be necessary to place the patient under so much personal restraint as should prevent the possibility of her changing her position, or making use of her hands, whilst the duty was performing. The use of the strait-waistcoat has also been especially recommended in cases of this kind, to keep the hands from being improperly used in reference to certain propensities and peculiar importunities of the disease. Whilst leeches were being applied, the opportunity should be made available for examining with great accuracy the condition of the parts affected in order to ascertain first the amount and extent of their inflammation; and secondly, the kind, quantity, and if possible the precise source, of any morbid secretions which might be furnished by the phlogosed organs. If immediately, on the falling off or removal of the leeches, it should be inconvenient or other-

wise unadvisable to have recourse to a repetition of the sub-tepid bath, as recommended among the items of the first day's practice, a very useful substitute might be found in the injection of full and repeated charges of cold water into the vagina, together with an occasional injection of the same fluid into the rectum. In cases of extreme phlogosis it might be prudent to attempt a gradual reduction of the heat of the parts by using first, tepid water to them, and then successively the same fluid in gradually reduced degrees of temperature. In cases of great offensiveness of the discharges, it might be exceedingly useful to syringe the affected surfaces two or three times daily with a moderately stimulant injection, consisting of equal quantities of decoction of bark, camphor mixture, and port wine. Under the more ordinary forms of inflammation of the same tissues, a solution of nitrate of silver in water, in the proportion of eight or ten grains of the salt to a pint of water, would furnish a better application. A reduction of the temperature of the parts within the pelvis has sometimes been attempted by a constant wearing and frequent changes of napkins charged with cold and evaporating fluids. It would appear doubtful whether and for how long a time the use of these and similar applications should be persisted in subsequently to the subsidence of the disease into a chronic form. The author knows but of one case which he can appeal to in illustration of the point in question. The reader will find the entire history, which is given at great length and fraught with intense interest, recorded in a Dissertation upon the subject of *Furor Uterinus*, by M. Bienville, and translated into our language by Dr. Edward Sloane Wilmot, p. 129, Lond. 1775. The following statements, much abridged from the work itself, will serve to give the reader a pretty clear idea of M. Bienville's practice.

Mademoiselle De, the daughter of a gentleman of moderate fortune, twenty-one years of age, became the subject of a furious nymphomania. In this state she was removed to a nunnery at Tours, where, in common with many other female maniacs, she appears to have been treated with great cruelty. From that establishment M. Bienville proposed to take her to his own private residence, in order to secure to her whatever advantage might be derived from her being made constantly the subject of his personal observation and care. In order to inform himself more particularly of the existing condition of his future patient, he undertook to fetch her and to superintend and assist in her removal. On the morning after his arrival at Tours, he waited upon the Grand Vicar, with whom he was previously particularly acquainted. "I informed him," observed M. Bienville, "of the motives of my journey, and desired that under the sanction of his authority, I might be immediately introduced into the inner apartments of the house, without allowing time for the least alteration of the usual methods of proceeding; as it was of the greatest importance, that from a view of their actual treatment of the patient, I might be able to form a judgment of their constant behaviour to her. My request being granted, we went directly thither, and the Grand Vicar, after having

for a short time conversed with the Lady Abbess on indifferent subjects, told her that he must immediately attend me to the interior rooms of the house. The Grand Vicar, it should be stated, was the SUPERIOR of the establishment. On this the Lady Abbess represented the dangers to which we should be exposed were the sisters not to have time allowed them for the removal of the most furious maniacs; and that such as might at the first view appear the quietest, were liable to assume in a moment the most frantic and alarming disposition. But he removed this difficulty by observing, that they might be all reduced to good order by our presence; and he then commanded the doors to be thrown open. I shall not attempt to describe the horror with which I was seized on my entrance into this house, the abode at once of lunacy, of guilt, and of despair. My respectable conductor had desired in a whisper the Lady Abbess to make him a sign on our approach to the cell of Mademoiselle De He had previously agreed with me that she should be given up. I was unwilling that it should be suspected during this visit that I was at all interested in her release. Oh most hideous and alarming spectacle! And can this indeed be Leonora? Is this the form of late so beauteous and beloved? Was this the fair one whose all-accomplished mind, whose grace, whose eloquence surprised and charmed us all? Oh lamentable fate! at which not only all her sex, but all humanity must tremble! Oh barbarous destiny! How incredible a metamorphosis hast thou not effected! What sunk and haggard eyes! How livid is that skin! How flagging and discoloured are those cheeks! How fœtid is the foam, how black and rotten are the teeth within that mouth! How shapeless is that curved and emaciated body! All, all is horrible. And is it really possible to think that these were once the residence of a thousand charms? Oh fatal airs of wantonness and love, into what a toil are ye come at last! Hither indeed have ye driven; to this mansion of infamy and horror have ye brought the most unfortunate of her sex! And must ye persecute her in her dungeon? Have ye snatched her from the bosom of her parents, from the convivial festivity of the table, from innocent and refreshing sleep, from the sweets of society, and from the most endearing and heart-inspiring hopes, only to prove her shame and her executioners? Oh most horrible desire! Oh most infernal passion, thou art more inhuman than these savage keepers! Thou art more to be dreaded than this dark and filthy cell! Thou art viler than this most nauseous food, and even more impure than this rotten and infectious straw! Barbarian, is this the pleasure which thou didst promise her! Too miserable Leonora! and is it here thy joys, thy luxuries must end?"

After a somewhat dramatic description of the incidents and difficulties attendant on the patient's removal, our author gives a very full and particular account of his treatment of the case. At the end of a long day's journey, the party, viz., the patient, her physician, and four attendants, two of each sex, arrived at M. Bienville's country house at a late hour in the evening. Late however as it was, a bath was ordered to be prepared, in which the patient

was directed to be placed, and compelled to remain an hour. When she came out and was wiped dry, a large plateful of rice was offered to her, which she greedily devoured. She was afterwards put *SWATHED* to bed, attended only by one powerful keeper, who was directed not to punish her, when she attempted to bite or made hideous noises, in any other way than by throwing a glass of cold water in her face. The next day she was bled to the amount of four-and-twenty ounces, at four bleedings of six ounces each, and at intervals of three hours between the several operations. After every bleeding, she was directed to be served with a quantity of porridge made with milk and barley flour, with the addition to each measure of half an ounce of syrup of poppies. This was on the 12th of May 1761. On the thirteenth she had given to her a small basonful of veal and chicken broth, the two meats having been boiled in the same fluid, together with some emollient herbs, such as are commonly used on such occasions. She was in the bath during the whole of the previous hour as on the preceding day; the head at the same time having been exposed to the action of pumping upon it. At five o'clock P.M., she was again bathed during another hour, and went through the same process of pumping as before. Her dinner was milk porridge. If she was thirsty in the day-time, she had clarified whey for drink. Two hours before the bath she took a broth of barley flour; at six o'clock, on coming from the bath and the pumping, she had a full measure of milk soup; and about ten in the evening some more broth as on the evening preceding, mixed with an ounce of the syrup of poppies.

The above remedies and regimen were exhibited during the remainder of the month of May and the whole of June.

It should be especially observed that the patient was always swathed during the night, so that she could not possibly carry her hands to the genitals. During the day she was so constantly watched by her attendants both whilst in bed and in her bath, that she had not a moment's opportunity for indulging in any obscenities. Whenever she offered to be guilty of indecencies, she was forthwith punished by having a glass of water thrown in her face, or intimidated from the attempt by a pretended preparation for immediately swathing her. During the intervals between her bathings, emollient injections made with the leaves of plantain and the roots of marsh-mallows, with the addition of a head of white poppy boiled for about a quarter of an hour in a pint of clarified whey, were passed into the vagina; due care being taken to prevent their escape. She wore, night and day, over the regions of the kidneys, plates of sheet lead, which were sufficiently thin to apply conveniently to the surfaces with which they were intended to remain constantly in contact, and over the external genital organs, a very thick flannel continually moistened with emollient waters. All the above measures of treatment were persisted in from the 12th of May to the last day of June inclusive, without any obvious amendment of the symptoms; the same uterine furor, the same dis-

charge from the genital passages, and the same jaundiced hue, and rigidity of the common integument continuing obstinately unsubdued, and scarcely in any degree mitigated. On the first of July, therefore, M. Bienville determined to have recourse to the use of medicines of a more decidedly tonic character, and to pay at the same time more strict attention to the condition of the genital organs. Of these, the principal symptoms were a considerable elongation of the clitoris, accompanied by a tettery eruption of the contiguous surfaces, and an abscess in the uterus, the malignancy of which was considered but too apparent from the extraordinary fetor and acrimony of the discharge which constantly distilled from it. At this time, however, the elongation and turgescence of the clitoris were a little diminished, and the tettery eruption seemed in some trifling degree to be less acrimonious; but the discharge from the uterus was still of such a character as to warrant the strongest apprehension as to the malignancy of its source. Under the influence of this impression, M. Bienville felt it his duty to substitute more stimulant injections for those which had been already exhibited. In about a month subsequently to these changes, it was observed with great satisfaction, that the patient was become more tranquil; that the ravings of her imagination were both less violent and less frequent; that her resistance to the taking of medicines was less obstinate, and that she was more easily restrained in respect to the movements of her peculiar propensities. The colour and odour of the discharge from the uterus were also become more laudable; and the surfaces within and about her nostrils, which had been very painful and inflamed during the times of greatest intensity of her malady, now showed a disposition to heal rapidly. "In short," observes M. Bienville, "I perceived the salutary effects of my remedies, although I could not as yet entertain the most distant hope of accomplishing an absolute cure. The gradual diminution however of the jaundiced condition of the skin, furnished an evidence that a corresponding revolution was taking place in the state of the system." Towards the end of September it was reported that the uterine discharge had totally ceased. The turgescency of the clitoris was also no longer observable, the tetters were quite healed, and for many days the patient's actions had been perfectly free from any demonstrations of obscenity. She was, moreover, become obliging to her keepers, and she took her medicines with the utmost willingness. "It was now more than a fortnight since she had worn any bandage." M. Bienville had still however to regret that he could observe no relaxation of the obstinate taciturnity which she had always maintained towards himself; although in all other respects she received his visits with marked decency and good manners. Medical treatment was therefore in a great measure laid aside, it being thought sufficient simply to persist in the use of the baths and to continue the application of the soaked flannel wrappers to the genitals and neighbouring parts. These folds of flannel were applied in such a manner as in some sort to constitute a part of the patient's dress. To use M. Bienville's own words, "THE PARTS

WERE WRAPPED IN A SOAKED FLANNEL WHICH WAS PASSED FOUR TIMES ROUND THE WAIST AND DESCENDED TO THE MIDDLE OF THE THIGH."

This investment it is worthy of remark was coiled around the upper parts of the thighs with so much tightness, as in some degree to limit the movements of the lower extremities. For on one day towards the conclusion of the period of its being used, the ingenious reporter of the case states, that "the bandage was raised higher that she might walk with more ease across the apartment, which for a short time she did with a very rational but an extremely melancholy air." On the morning of the twenty-second of October, one of the female attendants reported to her master that Mademoiselle De . . . had slept profoundly during the whole of the previous night, and that she had just awoke in full possession of her reason. Thus in short concludes the material part of the case; and thus, without experiencing any relapse, was this once most miserable being eventually restored to herself, to her father, and to happiness. For some time afterwards she observed religiously the regimen prescribed for her by M. Bienville during the latter weeks of his attendance, which was at her father's chateau. "Her food hath consisted principally of white meats, with which she hath drunk nothing but milk and clarified whey. She hath slept for a great while on a single hair ticking. Her father also selected her visitors from amongst those who were at once the most lively and the most virtuous. She is now married to an amiable youth who is passionately attached to her, and perceives with rapture that her beauty and discretion are subjects of conversation throughout the whole province." Bienville's Dissertation, p. 153.

The event of the above case may fairly be considered as one pregnant both with interest and instruction. It is indeed to be regretted that some essential particulars of its early history have not been duly recorded; a fact probably to be imputed to the circumstance that M. Bienville has chosen to become responsible only for so much of it as he was personally concerned in. It is however distinctly stated, that the fair patient had been FOR SOME TIME the subject of private surveillance and coercion in her father's chateau, before that gentleman could be induced to send her to Tours; whereas it seems also probable from certain incidental expressions made use of in the course of the narrative, that she must have been under the barbarous protection of the holy sisterhood of the nunnery for SEVERAL MONTHS, POSSIBLY FOR MANY MONTHS, before M. Bienville so humanely accomplished her rescue. It appears further probable, from the horrible condition in which she was found by that benevolent physician, that, during the entire period of her detention at Tours, she was made the subject of no medical treatment whatever, or at least of no medical treatment which could by any possibility be supposed calculated to have benefited her case. The disease was one of extraordinary violence. It had arrived at its second or chronic stage, and from certain hints given in the description of it the reader is led to infer that its occasional cause had been a disappointment in love. Now the union of these several circumstances might surely be expected

to constitute a disease of an extremely doubtful issue. Nevertheless by the active and judicious practice of M. Bienville, the patient was perfectly and permanently cured; thereby proving, not only the fact of the curableness of nymphomania under circumstances the most forlorn and desperate, but also the safety and probable utility of ample general bleeding at a period of the disease considerably advanced.

Among the earlier and more important duties to be duly attended to in the management of this most formidable disease, is that of ascertaining the fact of the existence, and if possible to effect the removal, or at all events the speedy diminution of the influence, of any circumstances presumed to operate as predisponent causes to it. From some of the cases which have been recorded, it would indeed appear probable that a strong predisposition to the malady might almost itself suffice to originate its peculiar movements; the concurrence under such circumstances, if any, of very feeble occasional causes being alone required to produce it. Storch von den Krankheiten der Wieber, Bd. ij. p. 113, 206, 281, 355. Heisterbergk, Dissert. de Virgine Nymphomania Laborante, p. 3. Joerg. von den Krank. des Menschl. Weiber, § 214. Astruc Traité des Maladies des Femmes, tom. ii. p. 351. The morbid predisposition here supposed is perhaps in most cases to be identified with a peculiarly active state of the sexual passion, and probably in many with a more than ordinary development of the sexual organs. Such activity may be either an original condition of the organs, or subsequently superinduced by various diseases either of those parts themselves, or of other organs sympathetically competent to disturb their actions. Hence the great importance in practice of acquainting ourselves with the proximately predisponent conditions, and the very first movements of the disease. When therefore an occasional cause of this malady is not very apparent, and when none of any importance is known to exist, the medical attendant will have to determine his special attention to the discovery of any circumstances which might warrant the belief, or even the presumption of a strong predisposition to it. We have already seen that the sentiment of love and the sexual passion are mutually and intimately dependent on each other. It is equally true, that taken together they are the causes of by far the greater number of cases of nymphomania which are met with in the practice; whilst it is also true that a very large proportion of the diseases of the latter, are derived from a more than ordinary activity of the former. Th. Bartholin. Epist. Medic. cent. iii. p. 147. Reiliius' Fieberlehre, Bd. i. p. 11. Bernstein's Pract. Handb. der Geburtsch. p. 196. Leibmann. de Furore, p. 20. Primeros. de Morb. Mulier. lib. iii. cap. 9. Stegmann in Ephemerid. Germanic. dec. iii. an. 1. obs. 13. The principal application of this important fact is the strong inducement which it furnishes to the physician to inquire into the preceding history of his patient, and to ascertain by accurate professional examination the existence and amount of any peculiar states and changes of condition of the genital organs likely to supervene upon certain actions and habits predisponent to the disease which

he has undertaken to treat. He will thus acquire a precise knowledge of the pathological facts of his case, and consequently make himself practically acquainted with so many important circumstances of which he otherwise would be ignorant, as it is presumed would most essentially qualify him to assume the very heavy duties of his engagement with proper confidence; and to discharge its obligations with adequate vigour, a sound discretion, and a probable eventual efficiency of result. But the practical inquiries here recommended should have for their objects not only the single class of morbid influences usually denominated the predisponent causes, but also equally indispensably those which are called occasional and proximate; which indeed are so connected and identified with their natural precursors the predisponencies to the disease, as in many cases to make it impossible to disconnect them for the purpose of a separate consideration. Hence the necessity in practice of a much more minute and analytical investigation of ALL the causes of nymphomania than is professed to have been given of them in the very general enumeration submitted to the reader in some preceding pages of the present article. All causes whatever, be they proximate or remote, predisponent or occasional; and whether direct or indirect, sympathetic or metastatic in their influence, which shall be competent to produce in the cerebro-nervous system, or in parts of it, certain peculiarities of condition, accompanied also or produced by a state of vehement excitation of the genital system, are therefore properly within the scope of the practical physician's inquiry and study, whenever it shall become his duty to undertake the treatment of a case of nymphomania. A brief series of examples will sufficiently illustrate this very simple but yet most practical proposition.

We have had more than one occasion to observe, that furor uterinus is more frequently the result of disappointments in affairs of love than of any other causes. But that cause may happen to be complicated with other painful states of the mind, as anger, terror, sorrow, etc. These disturbances of the mind may take place at a time when the genital system might be presumed to be more than usually exciteable, as during the state of fulness and occasionally of much pain and difficulty incident to the function of menstruation. We should moreover be alive to any family alliances, so to call them, which upon inquiry might be found to subsist between genuine uterine furor and other disorders of the same or of analogous functions, which may present themselves either at the same time, or in eventual succession. Hysterical mania, for example, in states of more than ordinary susceptibility from other causes, has occasionally been known to lapse into metromania or furor uterinus. *Dissert. de Furore Uterino*, Auctore Fried. August. Peschek. p. 17. *Storch. Krankheit. der Wieber. Bd. ij. p. 113.* Nymphomania has not unfrequently been produced by morbid sympathies from the action of other diseases of the nervous and genital systems, and with those of diverse other tissues and parts of the body. Storch, for example, quotes a

case of genuine rabies, in consequence of the bite of a rabid animal, which was accompanied by strong metro-maniacal demonstrations. Storch. loco jamjam citato. A similarly morbid excitement of the genital passion has supervened upon attacks of apoplexy. Bierlung. Thesaur. Theoret. Pract. p. 21. A young female became the subject of the same malady in consequence of having been for a long time exposed to the action of cold and exhaustion from fatigue and watchfulness, which had the effect of producing an extremely irritable and congested state of the external genitals. Storch's *Krankheit*, etc., 16, 113 et 114. We are again referred to a case of a young lady of a comparatively tender age, for she was under the age of puberty, who fell into strong convulsions, accompanied by an ungovernable propensity to apply indecent friction and titillation to her external genitals, during the second stage of the measles. The disappearance of the eruption was followed by a morbillous ophthalmia which seemed to be a signal for the immediate retirement of the other morbid affection. The pudendal surfaces were observed to be constantly in a state of sub-inflammatory action, and much suffused with a serous transudation. Leintin's *Beobachtung einiger Krankheiten*, p. 133. Camper refers to a case of genuine *furor uteri*, produced by the irritation of a stone in the bladder. P. Camper. *Obs. circa mutat. calculor. c. ij.* A young lady, the subject of a pleuritic affection, was seized with *nymphomania* in consequence of an unapprized visit paid to her by a young gentleman of her acquaintance. This no doubt was an effect of a certain functional consent not yet accurately known or explained between one or more of the thoracic viscera and the genital organs. It was a result of a metastasis, which indeed proved permanently critical; inasmuch as the patient was observed soon afterwards to recover rapidly from the effects of her first malady; whilst she continued for some time subsequently, "*aliquod tempus*," the subject of the uterine *furor*. The latter affection it should be noticed showed no disposition to yield until a new train of ideas was adroitly introduced to supersede the old one, by a fictitious announcement of the death of the young gentleman who had become the object of the vesanious part of the disease. Th. Bartholin. *Act. Hafn.* vol. iv. obs. 66, p. 167. Physicians have occasionally reported cases of vehement sexual desires, which had been produced by the abuse of drastic purgative medicines; a result possibly of sympathy between the uterus and its contiguous organ the rectum stimulated into a state of great irritation and perhaps more or less of inflammation by the action of the drug. Other varieties of stimulant and irritating medicines, as well as certain indigestible and flatus-producing compositions taken in the way of food, have been represented as having been productive of similarly morbid effects upon the functions of the uterus and its appendages. Sebitz. *Exercit. Medic.* p. 377. Irritated states of the bladder, whether primarily from diseased actions of its own tissue, from scirrhus or vesical calculi, or secondarily from diseased conditions of one or both kidneys, are credibly reported to have been from time

to time attended by intense sexual desires in both sexes, and in the female to have become ultimately complicated with mania. *Ephem. Germanic. cent. i. et ij. obs. 168. Schol. p. 344. Bonnet. Sepulchret. lib. iij. § 34.*

To an analogous head of subject have we to refer certain cases of metromania and metromelancholia, which have been quoted as results of congested states of the uterine system from too a sparing or suppressed menstruation. *Th. Bartholin. in Epistolis, cent. iij. p. 144. Ad. Brendal in Obs. Anat. dec. iij. obs. 10. p. 25. Schurig. Parthenolog. p. 170. Act. Hafn. vol. 1. obs. 80. p. 164.* The cases are not numerous, but still there are several on record, of metromania produced by metritis; the evidence of that fact, as in Dr. Bright's case, being duly founded on post-mortem examinations. A young woman, observes Lanzoni, was seized, without manifest cause, with nymphomania. She died on the fourteenth day of her disease. The uterus and the ovaries were in a state of inflammation. *Ephemerid. Germanic. dec. iij. an. 5. et 6. obs. 121. p. 253. Baldinger's Magazin für Aerzte. Bd. x. p. 892.* The metritis so frequently incident to the puerperal state, seems to be of a character seldom calculated to produce nymphomania. Nevertheless, there are not absolutely wanting cases of that kind. *Peschek. in tract. citat. cap. iij. p. 43.* It is to some such action as that of a mild variety of metritis that we should probably ascribe primarily the insidious atonic fever which we sometimes observe to terminate in puerperal insanity. Some cases have been recorded of nymphomania in its severest forms as an effect of inflammation exclusively of the lateral appendages of the uterus. *Blancard. Collect. Med. Physic. cent. 1. obs. 28. Lochner in Ephemerid. Germanic. cent. viij. obs. 3. p. 225. Michael. Prax. Clinic. p. 556. J. M. Hoffmann, Disquisit. Anat. Path. Spec. 9. § 4. p. 117.*

It is a fact well known to practical anatomists, that nature has sometimes chosen to supply the genital system and its contiguous tissues, with an excess over the usual number of spermatic bloodvessels, both arteries and veins; the excess in some cases amounting to two or three of each class of vessels above the ordinary number; the accessional vessels in the mean time presenting an excess of capacity over those of standard dimensions. Should we not expect that a supply of blood so unusually liberal determined to organs naturally endowed with no ordinary susceptibility of excitement as those are of the genital system, might very probably lay the foundation of a strong predisposition to high-toned diseases of those organs, and especially to the peculiar disease under present consideration? And what has been the fact, in many cases, where such distributions of bloodvessels have obtained? Why, that their subjects had actually been distinguished for strong sexual propensities, or been the victims of nymphomania in different degrees of intensity. *Salzmann, in Obs. Anat. a Th. Wynant's edit. p. 35. Bierling. in Ephemerid. Germ. dec. i. an. 2. obs. 208. Bonnet. Sepulchret. lib. iii. § 34. Kerkring. Spicileg. Anatom. obs. xxxij. p. 72.* Again, morbid enlargements of almost all kinds, both of the genitals and of other pelvic organs, as also other causes of irritation,

such for example as calculous concretions, and other deposits foreign to the natural actions of the parts, occasionally found imbedded in the substance of the uterus, or its immediately dependent tissues, are known to have been attended by the peculiar demonstrations of metromania. Bonnet. *Sepulchret.* lib. iij. § 33. The reader is well aware how frequently morbid developements of the clitoris, and certain peculiar personal habits, calculated to determine an increased quantity, or to quicken the velocity of the circulation, of blood in the genitals, have been accompanied or followed by metro-maniacal demonstrations. Hence also, more or less, the same results in predisposed subjects from more than ordinary devotedness to the exercises of riding, dancing, etc. Storch. p. 204. Astruc. p. 351, 355. Schneider, in *Ephemerid. Germanic.* cent. iij. et iv. obs. 156, p. 354. Bernstein's *Prakt. Handb. der Geburtch.* p. 196. Joerg. § 214. Primeiros. p. 193. Schurig. *Gynæcol.* p. 12. Blancard. *Lex Medic.* p. 277. Musitan de Morb. Mulieb. p. 473. Mercurial. de Morb. Muliebr. lib. iv. cap. 8. Liebmänn. de Furor. Uterin. p. 24, 25.

Such is a sketch of perhaps the principal, but certainly not of all, the causes of nymphomania, and such, so far as they go, are the channels and objects of analytical inquiry proper for the consideration and minute investigation of a physician when about to undertake the treatment of that formidable disease. It is indeed a fact, that many of its causes are beyond the reach of art to remove, as is often their actual existence beyond the reach of discovery before the patient's death. But of some others, the precise character and locality are such as to admit of their being distinctly ascertained, and made the subject of treatment. From the above review of the proper pathology of our subject, it will obviously appear that uterine furor must often present the greatest difficulties as to its treatment, and that in some cases independently of all regard to the recency of its date or the length of its duration; which however in many others, although very formidable as the array of facts now presented may justly appear to us, we are nevertheless still left in possession of substantial grounds of hope that our efficient and judiciously conducted services may prove successful. In the first stage of nymphomania, and when not depending upon incurable disease of structure, there can be no good reason for supposing that its disordered actions, whether of the head or of the genitals, provided they are exclusively functional, should not yield to a vigorous repression of the phlogosis attendant on the uterine symptoms, aided by a discreet moral management of the maniacal part of the disease. Even in the second or chronic stage of the malady we have cited a remarkable example, and others might have been quoted, in proof of its occasional curableness. But in its THIRD AND LAST stage, viz. in that of absolute fatuity, the case should be considered as almost utterly hopeless. Diminution of intensity of the symptoms of nymphomania may perhaps sometimes be hailed as evidences of possible ultimate recovery; but such occasional remissions should often on the other hand be regarded with much suspicion, as really amounting to so many delusive promises destined never to be

fulfilled, or rather to be suddenly extinguished by the unlooked-for death of the patient; or by the lapse of the more tonic form of the disease into incurable fatuity. There can be little or no ground for anticipating a permanent cure, and not much for the hope of any considerable remission of the symptoms when its existence is known to depend on a structural disease of any part of the uterine system; progressiveness being an essential attribute of almost all structural diseases. Without taking into our account any cognizance of the structural or proximate cause of the disease, which we have seen is not always to be ascertained, experience appears to sustain the commonly-received opinion, that a high-toned malady presenting itself as a consequence of some sudden disturbance in the actions of the genital system, in robust, sanguineous, or choleric subjects, admits of a more favourable prognosis than its opposite of a low-toned character, constituting what has been called *UTERINE MELANCHOLIA*, and usually presenting itself in feeble and timid subjects of originally nervous, hysterical, and melancholic temperaments. It may be further remarked, that the more powerful and COMPLICATED the causes of the malady may be, and the more easily, efficiently, and unremittingly they are observed to sustain its actions; and the more uniformly obstinate will be its character, the more difficult its subduction, and the more unpromising its issues.

Add the important fact that nymphomania has sustained very unexpected solutions of its morbid actions, in consequence of the supervention of critical discharges and other spontaneous changes in the constitutions or sexual functions of its subjects. Astruc. *Maladies des Femmes*, p. 370. Hence the re-establishment and due performance of the menstrual function after a previous retention of its tributes for many months. An unusually copious quantity of the catamenial discharge, amounting in some cases to an actual uterine hæmorrhage, profuse leucorrhæal discharges, critically instituted and indefinitely protracted, certain acutely-experienced impressions, the result of intense functional excitements during the enjoyment of the sexual congress, and especially impregnation, have been enumerated among the principal changes to which these statements refer. The remedial influence of the latter great change just mentioned has not been considered absolutely permanent, unless within a year or two from the delivery consequent upon her critical gravidity she should be fortunate enough to become pregnant again. One case is recorded by Harvey, in his *Dissertation de Partu*, last book, of recovery from nymphomania, in consequence of the exposure of the uterus in a state of procidentia to the action of intense cold.

When nymphomania is assumed to be merely idiopathic, and exclusively the result of strong sexual phlogosis, without morbid derangement of structure, and supposed especially to originate in inordinate vigour of the sexual passion, or in disturbances of the genital system consequent upon disappointments, or other erotic miseries, we have presented to us an example of the most common variety of the disease. After the subduction of the more acute symptoms,

which is to be attempted in the manner already prescribed in p. 471, and which indeed, with some modifications as to vigour, should be pursued during the acute stage of the disease, under whatever circumstances as to origin; we have to deliberate on our future indications and more extended combinations in the event of the malady being protracted, and eventually of its subsiding into a chronic form. Under the altered circumstances of the case as now supposed, general bleeding should be considered as no longer indicated or permissible; whereas even local bleeding by means of leeches should be had recourse to with great caution, much more moderately as to the quantity of blood to be abstracted, and at longer intervals. The practical rule should be, that no inordinate fulness of the vessels of the genital system should at any time be permitted to be renewed. With this view as well as for the best moral reasons, all obscenities and personally disgusting habits attempted on the part of the patient to be practised, should be most religiously guarded against and repressed. The use of the sub-tetid or that of a moderately cool bath should be persisted in with little or no relaxation, together with the assiduous administration of demulcent and sub-stimulant injections into the vagina, and cold evaporating lotions and applications to the external genitals and their neighbouring surfaces.

The constant reduction of temperature of the central portions of the body, the proper residence of the phlogosed organs specially interested in this disease; and the important moral effect attained by the use of M. Bienville's flannel bandage, are circumstances which would appear to entitle that mode and principle of local application to the reader's most favourable, or at least most deliberate and candid consideration. Of its utility during the more unsubdued forms of the disease, it is presumed that there can exist no reasonable difference of opinion. The punishment of indecencies or other improprieties of conduct, viz. that of throwing cold water into the patient's face, recommended by the same respectable authority, seems exceedingly well adapted to its intention; and should on no account be superseded by blows or any other mode of coercion founded on the principle of PERSONAL CASTIGATION. The strait-waistcoat will be found in all cases an indispensable instrument of repression, for two reasons, with which the reader is already well acquainted. During the day, and after the commencement of convalescence, it should be partially and gradually dispensed with. Whatever of other comforts, and even of indulgences, which consistently with safety and in accordance with the general indications thought proper to be pursued could be extended to the fair subject of our treatment, should of course be most kindly and liberally accorded to her. Her residence, if it might be made a matter of choice, should be in an open salubrious country, and in large and airy apartments. Her bed should be well adapted as to accessional furniture, for safe and yet mild personal security and coercion. In other respects it should consist of a hair mattress, sound and clean as to its materials, and covered with such clean sheeting and blanket or blankets,

as the temperature of the season might indicate. Her body clothing should of course be clean, light of texture, and in quantity duly suited to the season and climate. The feet, for the most part, should be clad in yarn socks or stockings and thick shoes; it being an object to divert as much as possible any unequal determinations of blood from the head and the genitals to the extremities. With a view to the establishment of a well-balanced distribution of blood to all parts of the body, it might prove a measure of most important utility to provide the patient, especially after the commencement of her convalescence, with convenient means, and the opportunity, for some easy and pleasurable exercise. Her diet should consist, principally if not exclusively, of vegetable food. No kind of meat should be allowed during the acute stage of the complaint; nor any, excepting in small quantities, under any other forms or circumstances of the disease. Salted foods, spices and aromatised condiments of all descriptions, should be proscribed. All drinks whatever should be diluent, demulcent, and cooling. Articles often technically called refrigerant, consisting as they generally do of saline preparations, should be withheld, by reason of their tendency to irritate the kidneys and bladder; the irritation of the latter organ being liable to be propagated to its contiguous viscus the uterus. The question of marriage has been already, very lightly indeed, touched upon. It must always be a delicate subject, and in many cases would be found beset with insurmountable difficulties. In the worst forms of the disease it could scarcely be deemed practicable. Under its milder, mitigated, and convalescent forms, we have innumerable authorities in favour of its utility. If the disease be supposed to depend upon a complication of causes, amongst which a structurally diseased condition of any of the genital organs MIGHT BE PRESUMED TO BE ONE, it would be an unpardonable act both of weakness and madness to entertain the question of marriage for one moment.

Cases of symptomatic furor should be attempted to be cured on the principle of removing or alleviating the primary disease. If for example the original disease be LOVE; possession of the beloved object would furnish, on this principle, the most suitable and efficient remedy: although, in most cases, it would be found impracticable to proceed to that consummation without a previous treatment, by bleeding and other measures already described, of the secondary malady. Suppose again the primary disease to be inflammation of an organ more or less remotely situated from those which afterwards, by translation of morbid action, become the subject of the disease: here again it would be obviously expedient, in the first instance, to allay the new storm by bleeding and other depletory measures; and then to fall back on the quarters of the primary disease, the remains of which might be dislodged by mercury; or its associations disturbed and eventually dissevered by counter-irritants applied to the integumental surfaces, supposed to correspond or to be proximately contiguous to the part or viscus originally affected by it.

Again, suppose the furor to have owed its origin to suddenly-suppressed

menstruation: amongst the consequences of such a result we should be prepared to encounter a pretty smart fever kindled in the system. But febrile actions from the mere suspension of a function, are often neglected or very inactively treated. Sanguineous congestion and phlogosis of the uterine system would supervene as natural consequences. If had recourse to very speedily after the suppression of the catamenial discharge, the treatment proper for the subduction of the metro-maniacal symptoms, might very probably have the effect of restoring the lost balance of the suspended function; and thus both sets of derangements might be happily disposed of together, and in a short time. In the event, however, of neglect of the natural function, in the first instance, there would be great reason to fear lest that function might remain for a long time, or be even permanently suspended; and so conduce to an eventual establishment, in a chronic and protracted form of the metro-vesanious malady. Subsequently to such a complicated and most unfortunate result; the indication which, as it seems to the author, might be most advisable in the circumstances to pursue; would be to determine our almost entire attention, and to use our best exertions, with the utmost promptness and vigour, to effect the restoration of the suspended catamenial function; without however laying aside the use of the baths, lotions, etc. as before recommended as important items in the treatment of the metro-vesanious part of the case.

With respect to the treatment of THE MENTAL ALIENATION, which forms so important a part of nymphomania; it is worthy of observation, that it presents quite as many difficulties, and will require on the part of the practitioner the exercise of quite as much nice balancing of modes and measures to be made available to the interests of the patient, as the other equally interesting section of the management. Copious venesection is equally indicated in the treatment of the maniacal part of the case, as it is for the subduction of the extraordinary phlogosis of the sexual organs. A similar observation may be made in reference to the use of the tepid and sub-tepid baths.

As a measure calculated to produce a relaxation of tone in the morbid actions both of the head and of the genital organs, an efficient emetic, consisting of a grain and a half of tartarized antimony and a scruple of powder of ipecacuanha, should be exhibited within half an hour after the first general bleeding. This measure would have the effect at once of emptying, cleansing, and improving the actions of the stomach; whilst it would also most probably conduce in some measure to a diminution of intensity of the cerebral excitement. With a similar general view, the action of the emetic should be followed up by the administration of an active purgative, consisting of five or six grains of calomel, and a scruple of jalap. On the cessation of the action of the purgative, the rectum should be washed out with a pint of warm water, and half an ounce of common salt or brown sugar; and afterwards charged with ten or twelve ounces of water or thin gruel, of the temperature of from forty to fifty degrees of Fahrenheit. After the general bleeding already supposed to have been had

recourse to the subduction of the uterine part of the disease; it would require consideration as to how soon, and in what precise circumstances, it might be expedient to abstract blood LOCALLY from the head or from any of the more accessible vessels in its immediate neighbourhood. The author considers that that object, when actually indicated, would be best attained by efficient cupping from the temples, or from behind the ears, or by the common operation of bleeding by incision of one of the external jugular veins. Leeches are sorry operators, in cases of this kind. For the reduction of the morbid excess of heat in the head, an indication at least not less important than that of subducting from the morbid tone of its circulation by the abstraction of blood from it, see the process recommended in page 474.

Of the medico-moral part of the treatment, little more can be observed on an occasion like the present, than that it must almost altogether be left to the discretion of the physician in attendance, and his auxiliaries the functionaries charged with the custody and personal management of the patient. The keepers and nurses should of course be females of good reputation, of a calm and quiet temper, not contentious nor loquacious, possessing as much understanding and practically good sense as can be ensured in persons of that class, firmly obedient to the instructions of their superiors, not young enough to be giddy, and therefore uncertain and irregular in the performance of their duties; and not old enough to have become torpid, asthmatic, deceptive, or drunken. It is obvious that the strictest sexual morality of a person so situated should be made a matter of most indispensable requirement. The more decided medical indications to be observed in the treatment of the vesanious part of nymphomania, must, with very few modifications, be precisely the same as those on which are founded the most efficient practice in other varieties of insanity.

OF STERILITY. Barrenness, unproductiveness, female unfruitfulness.

Sterility is in the female what impotence is in the male. In both it denotes the absence or an extraordinary torpor of the faculty of reproduction. In ancient times, and especially among the Hebrews, this incapacity for reproduction was considered in the light of an opprobrium; and even in modern times, there attaches to it some slight degree of discredit. Sterility is either absolute or relative. Hence its methodical distribution into two principal varieties; the one depending upon absolute incompetency of the generative organs for a prolific consummation of the act of procreation; and the other the effect only of torpor or of some morbid peculiarity of function, in one or more of the organs charged with the attribute of reproduction. The former variety is again distributable into two other subdivisions, viz.; first, when the conformation of the generative organs of the subject is such as to oppose insurmountable obstacles to the act of sexual intercourse; and secondly, when no valid obstacles are presented to the consummation of the venereal act, but where impediments are nevertheless opposed to the due transmission of the semen masculinum to its properly ulti-

mate destination in the genital system of the female. Of the several varieties of impediments to the natural intercourse between the sexes, some are capable of being removed by certain operations of art; whilst others are essentially incurable, as being totally beyond the reach of any services either of surgery or medicine. Curable malformations are generally those of the external genitals and vagina; whilst the groups of incurables are principally those which affect the uterus and its lateral appendages.

The faults chargeable upon the vagina are, its absence, insufficient development, an imperforate state of its orifice, cohesion of its parietes, occupancy of its tube by substances foreign to its own organization, and preternatural intercommunications between its proper passage and the passages and cavities of other organs either strictly contiguous or otherwise more or less accessible to it.

The greater number of malformations of the external genitals and the vagina competent to oppose effectual obstacles to the performance of the sexual congress, having been treated of at some length in a preceding chapter of the present work, and their remedies in incurable cases severally pointed out, it would now be both unnecessary and improper to occupy the reader's time with any additional discussion of that part of our subject. At present, therefore, we have briefly to notice such defects and malformations of the organs concerned as are calculated to prevent conception, without however having the power of impeding the due consummation of the venereal act. This class of malformations of the sexual organs, are those which exclusively affect the uterus, the ovaries, and the Fallopian tubes. These causes of sterility are chiefly operative by reason of their competence to oppose an obstacle to the due transmission of the semen masculinum to its ultimate destination. The first group of impediments especially concerned in this part of our inquiry are some principal malformations of the uterus, viz. an imperforate state of its orifice, the absence of passage through its cervix, and the absence of cavity within its body. It matters not whether these be original conditions, or subsequent malformations produced by accidents or disease. If the latter, its subject would become sterile, after she had been fruitful antecedently to the occurrence of her mutilating accident or disease.

Cases have been numerous recorded of the absolute non-possession of a uterus. Such a capital defect would be fatal to the interests of reproduction in more ways than one; first, as it would most probably impose upon nature the resource of closing up the superior part of the vagina after the manner of a cul-de-sac; which of course would have no passage at that part for the transmission of the semen masculinum to the parts above; and secondly, as it would amount to an absolute privation, on the part of the subject, of an organ in a functional point of view most necessary and indispensable to the very institution of the process of conception. Examples of these several defects and malformations will be duly submitted to the reader when we come to treat of the structural diseases of the uterus.

Authors have enumerated many diseases, both of tissues and functions of the same organ, among the causes of sterility; as cancer, intumescences of parts of its parietes, unhealthy conditions of its mucous membrane, hydropic effusions into its cavity, the occupancy of its cavity by morbid growths or deposits, etc. Any of these circumstances may indeed very properly be placed amongst the most common causes of female unfruitfulness. They are not however to be considered as absolute causes of barrenness, it being possible they may all exist without producing an obturation of any of the genital passages. It might be presumed, and it has indeed been so asserted, that cancer is attended with so painful a condition of the neck of the uterus, that no woman when become the subject of it could submit to the means of being impregnated; and even if that were possible or probable, that it is scarcely credible that any woman would really become recipient of the influence of impregnation under the misery of the circumstances supposed. Facts however are stubborn things. Cases of pregnancy complicated with carcinomatous states of the uterus are almost innumerable recorded. In explanation of a fact so remarkable, it may be observed that pending the state of vascular fulness and phlogosis usually observed to precede the actual establishment of scirrhus or carcinomatous action, a condition of the organ which we may perhaps be permitted in many cases to identify with a state of predisposition to malignant disease; the uterus is frequently the seat of an intense pruritus, by which its possessor becomes the subject of a violent excitement of the sexual passion, of which also the gratification at that period is not only not painful, but attended by a more than ordinary degree of enjoyment.

Under these circumstances, if in the mean time we suppose the absence of physical and constitutional impediments, conception would be a most natural consequence; and under the circumstances supposed, it is well known that conception very frequently does take place. But mark the result. The disease is often rapidly progressive in its character. The prurient condition of the uterus is quickly followed by an intense sense of heat, and that again as rapidly by smart twinges of pain, which is usually referred to the interior of the pelvis or to the small of the back. The pregnancy begins to be suspected; but the disease continues to increase in its demands on the patient's attention. In the course of some weeks, or perhaps some months, the uterus, being painfully and frequently stimulated by the twinges of the malady, is thrown prematurely into expellent action, which must end in a miscarriage, and which most probably would be succeeded by a profuse hæmorrhage. After an imperfect recovery from a painful and tedious confinement, the patient naturally looks forward to a period when she is to attain to a full repossession of her former state of health and strength. But that period is destined never to arrive, and the disease is observed to advance with rapid strides. The catamenial function, if again re-established, becomes irregularly suspended or disturbed, excessive in its tributes, or complicated with profuse hæmorrhages. The enemy however continues unrelenting.

The characteristic pains of the malady become more intense and less intermittent, and its peculiar discharges more fetid and profuse. At length the patient dies.

It sometimes, but less frequently happens, that impregnation takes place at a more advanced period of a carcinomatous disease than we have here supposed. The author once possessed a preparation of a carcinomated uterus, which was so far destroyed by the characteristic ravages of the disease, that only about two-thirds of its remnant could be distinguished to be uterine structure. When it was presented to the author by a late admired pathologist and lecturer on pathological anatomy at St. George's Hospital, there was attached to the fundus part of it an ovum of about ten or eleven weeks' gestation.

The FUNCTIONAL DISORDERS which not unfrequently act as causes of barrenness, are often so far relieved or remedied that they occasionally cease to act as efficient impediments to conception.

Sterility has sometimes been imputed, perhaps with considerable exaggeration, to malposition of the uterus, as also to relative malpositions and obliquities of its orifice. When the venereal act, by reason of irritated conditions of the genital passages and of the uterus itself, consequent upon severe forms of prolapsion or other malpositions of that organ, is performed with little or no satisfaction, or perhaps with pain; we could pretty well understand why, under such circumstances, a woman might show no disposition to breed. But cases of this kind are not to be considered as physically and absolutely incompatible with the existence of the power of being impregnated. When the genital passages are free from irritation, and the uterus is kindly tempered and adequately stimulated, it is strongly the opinion of the author, that that extraordinary organ is not so unaccommodating to its own interests as many French writers would have us believe. Witness the evidence of impregnations of undflowered subjects; of women with unruptured hymen, and even with an aperture through that membrane scarcely large enough to admit a crow-quill; the uterus in the mean time maintaining its naturally-elevated and original position within the pelvis.

If we duly consider these facts, what must become of the mighty difficulties of impregnation on account of trifling malpositions of the uterus or its orifice; and of the pretty sentimental instructions given by authors for the due adjustment correlatively of the organs usually employed on these occasions?

It is considered, and correctly no doubt, that an imperforated state of the Fallopian tubes, must prove an unsurmountable impediment to conception. Adopting this hypothesis, we must of course take for granted the fact, of both these passages being in a state of obturation. It is manifest that incompetency for impregnation depending upon this cause, can only be established after the subject's death. The closure of the passages through the Fallopian tubes has usually been found at or near their abdominal extremities. It is remarkable how very frequently in post-mortem examinations, we find the fimbriated ter-

minations of these tubes morbidly adherent to their corresponding ovaries. The author does not recollect that he has met with a single example, although he has often and carefully examined the parts with that view, of a state of imperforation of the Fallopian tubes AT THEIR UTERINE EXTREMITIES.

The OVARIES are rendered incompetent to perform their important office in the business of reproduction, so as to produce absolute sterility by the several circumstances of their being wanting, defectively developed, or structurally diseased. Whenever any of these circumstances have happened, their subjects have invariably exhibited certain external manifestations of the actual imperfection of their organization. The ovaries it is generally believed are the proximate agents, or to state the fact still more precisely, they are themselves the functionaries employed by nature to generate the primordial fabric of the ovula in the female. If absent or physically marred or blasted as to the condition of their own specific tissue, it is obvious that they must prove incompetent for the mysterious work of plasticising the million times more delicate fabric of latent and yet doubtfully existing genitura.

The ovaries are subject to several important diseases, of which there are probably few, if any, which we may not presume to be competent, either to impair, or else absolutely to destroy, their progenitive attributes. The most frequent variety of ovarian disease which we may suppose calculated to produce this effect, is that of an obviously morbid enlargement of the vesiculæ Graaffianæ, accompanied by a visibly degenerated structural condition of their parietes.

Such probably is the most frequent cause of sterility in most young women apparently possessing, and continuing for many years to possess, a very fair share of good health.

Absolute barrenness might be expected to be a consequence of the absence or obliteration, or non-communication with the ovaries, of both spermatic arteries.

Having concluded a very brief sketch of the causes of sterility, which we suppose to have the power of acting absolutely and with the certainty inseparable from the agency of physical laws, it now remains to notice a few principal circumstances relevant to our subject, competent very often to produce barrenness, but by reason of their influence being less positive, and their conditions more changeable and remediable, not so ABSOLUTE AND IRREVERSIBLY OPERATIVE IN THEIR AGENCY. Of these we may first notice an imperfect performance of the function of menstruation. The absence of this remarkable function subsequently to the arrival of the age of puberty, is indeed justly considered as indicative of incompetency and disqualification in the female, for the rights and privileges and due performance of all the functions of connubial life. There are few examples of women having been impregnated either before the appearance

or after the cessation of this function. Menstruation is as much a common attribute of women of all nations, climates, and countries, during about thirty of the best years of their lives, as is the faculty of reproduction itself; which faculty of reproduction is an actually efficient attribute of the human female only so long as she continues to be regularly and healthfully the subject of the periodical renovations of the characteristic privileges and attributes of her sex. Amongst the most influential causes of sterility, next to those which we have enumerated under the head of ABSOLUTE CAUSES, have been usually placed certain peculiar varieties of constitutionally and sexually feeble health. We are indeed well taught by experience, that constitutional SICKLINESS is in very many cases an unquestionable indication or accompaniment of sexual infirmity in women. When the constitutional health is delicate, women after having for years been unproductive in consequence of suppression or irregular performance of the function of menstruation, have again, upon the restoration and improved execution of that function, become the mothers, as it were, of a numerous second family.

A state of good health of all or of the greater number both of the organs and functions of the body generally may also be considered as a favourable disposition, or condition a priori, and as a matter of promise and probability that a female so circumstanced should possess in perfection the attribute of fecundity; whereas the reverse conditions might be reasonably assumed as generally indicative of the absence, or at least of much feebleness, of susceptibility to conceive. Inasmuch however as good health and a strong constitution are only relative conditions of the power in question being possessed in much vigour, so experience also proves that languid health and a feeble constitution are not absolute but relative causes of sterility.

Unsuitable marriages may be placed amongst the most prominent RELATIVE CAUSES of sterility. How often do we not meet with examples of women who have been childless to one man, although perhaps the object of their first attachment, and afterwards very prolific to a successor? And have there not been examples of wives who have been cold and unprolific to their husbands, but have been ardent and productive to other men? Not only is it an essential condition that a female, to be prolific, shall not exceed a given age, (but it is likewise a condition almost equally desirable and necessary,) that the MALE shall also be of an age to be possessed with proper vigour of the powers belonging to his sex: for although we meet with constant examples of women proving prolific to old men, yet the examples of fecundity are incomparably more numerous when young wives enjoy the privilege of being caressed by young husbands, than when they foolishly sacrifice themselves to be teased and disappointed by old ones.

It was once an opinion that homogeneity of temperament of husbands and wives should on no account be left out of the list of the non-absolute causes of infecundity: so that a brunette, of a choleric or melancholic temperament, should be expected to prove more prolific to a husband of a light complexion and

sanguineous temperament than to one of the same complexion and the same temperament with her own. B. de St. Pierre is said to have believed so earnestly in the efficacy of this contrariety of temperaments, as well as in the fact of its general and practical adoption under the kindly auspices of nature herself, that he pretended he could pretty generally sketch a good likeness of a favourite lover or a much-beloved husband from a near view of the air, temperament, and actions of the lady who honours him with her preference. But St. Pierre, it is pretty well known, was an enthusiast as well as a philosopher.

Again, certain vices and defects of character, as also physical deformities productive of disgust and antipathies between a husband and his wife, have been enumerated among the non-absolute causes of sterility. "One could cite the example of more than one woman," observes M. Capuron, *Traité des Maladies des Femmes*, "who never chose to receive the caresses of a husband or a lover after he had refused to die at the post where honour and duty had placed him." We all know how great and universal is the repugnance which is felt for such infirmities as a fetid breath, discharges from diseased nostrils, foul cancerous ulcers of the lips, the horrible ravages of sibbens and noli me tangere, a constant involuntary escape of the contents of the bladder or rectum from palsy of their natural guardians, their respective sphincters, etc. Should a woman have the misfortune to be afflicted by any of these disgusting infirmities, her husband, let his natural temperament be ever so ardent, might well be pitied, if not excused, in case, from time to time, he felt his warm affections chilled. Infirmities are common to both sexes, and of course mutual in their influences. The wife is naturally as liable to be disgusted by any foulness or disgusting infirmities affecting the husband as the latter is by those of the former. A young Englishwoman of great beauty and accomplishments became engaged to a gallant officer of cavalry of suitable age, during an early period of the late French war. Soon afterwards, the lover was ordered abroad with his regiment, and won the honour of being esteemed a brave officer. But WHERE LIES HONOUR? In less than six months after he left England, his lower jaw was shot off by a cannon ball. He survived, but was horribly disfigured by his unfortunate wound. Through the kindness of a professional friend the author had the opportunity of once seeing it; and the sight was indeed so frightful, that he has seldom seen its equal in any of our public hospitals. The young lady, more honourably perhaps than wisely, declined to accept his offer to withdraw his suit, although very strongly urged to it both by her lover and by her own friends. She chose however to be married. Public rumour has reported, that the marriage did not prove so delightful a connexion as was possibly anticipated by the lady. At all events it has furnished no pledge of her affection for her husband.

Women of reserved manners and cold constitutions, are generally supposed

to be but feebly susceptible of the influence of impregnation. But this rule, if it be at all true, is not one without many exceptions. We see every day the poorest and most meagre-looking subjects surrounded by numerous progenies; whilst on the contrary women, presenting to all appearance in respect to physical attributes the most plausible pretensions to fecundity, who nevertheless never attained to the happiness of being able to give to their husbands the pleasure of congratulating themselves as fathers.

It is an opinion as old as Hippocrates, that females more than ordinarily obese, are less susceptible of impregnation than others less inconveniently charged with adipose substance. The explanation of this presumed fact is somewhat curious. It supposes, in cases of sterility, under these circumstances, the intestines and omentum to be overweighted with fat; and that being thus overweighted, they force the uterus as it were mechanically to seek a lower situation in the pelvis than what it should naturally occupy; and as deposits of adeps are not uniformly distributed upon tissues equally liable to be incommoded by them, it is made an additional part of the theory, that the uterus may thus become the subject of partial pressure as to different parts, both of its fundus and parietes, so as to be driven into all sorts of awkward and inaccessible positions; much, as the hypothesis further assumes, to the prejudice and discomfiture of the most important interests of the state of marriage. The influence of obesity in the male relatively to the same interests, has been attempted to be accounted for by supposing that an excessive charge of adeps is incompatible with an adequate secretion of semen. If the quality of that essential secretion be good, i. e. duly potential in its influence, when applied to its quantity perhaps it may be of no serious consequence.

It is more than probable that the semen masculinum principally, if not altogether, consists of an immense number of animalcula of determined forms, but presenting a general resemblance to small worms, and therefore sometimes called *vermiculi spermatici*, and that only one of these animalcular bodies, properly conveyed to one of the ovaries of a susceptible female, might suffice to furnish the male part of the rudiments of an embryo. "Those minute bodies have small rounded heads, with a gradually tapering tail, and straight, but alternately bent to either side. They are a thousand times smaller than a hair, and ten thousand times more slender than one of the *tubuli testis*; so that, according to *Leevenhoeck*, two hundred and sixteen thousand of them would go in a sphere equal in diameter to the breadth of a hair. Their length has been estimated at $\frac{3}{100000}$ th part of an inch. They are found in all quadrupeds, in reptiles, birds, fishes, insects, and even in testaceous animals. Some variations are observed of their figure in different animals; but their size is nearly uniform in all. They are said not to exist in children, nor to be observable after frequent sexual intercourse." *Rees's Cyclopædia*, art. Generation.

“A quantity of semen,” observes Spallanzani, “far more inconsiderable than we should ever have imagined, is sufficient to animate a tadpole. We have seen that it is not necessary to cover the fœtus completely with this prolific fluid. A drop will suffice. Nay, further, three grains mixed with twelve and even with eighteen ounces of water, communicate to every part of it the power of fecundation; since tadpoles placed in any part of the mixture are fecundated. The three grains of seed must therefore have been diffused through the whole mass of water. But what an enormous division of its particles must such a diffusion occasion! How small a portion of prolific liquor must fall to the share of each tadpole! Yet there are facts which prove that the semen still retains its virtue after this excessive division; for I have found that a globule one fiftieth part of a line in diameter, taken out of a mixture of three grains of seed with eighteen ounces of water, was often capable of fecundating a tadpole. Desirous of knowing the proportion which the tadpole (that of a frog is two-thirds of a line in diameter) bears to the particle of seed diffused in a drop of this dimension, I have found, on calculation, that it is as 1,064,777,777 to 1. How infinitely small therefore is the quantity of seed in comparison with the bulk of the fœtus which it fecundates. This deduction led me to calculate the weight of the particles of semen in this drop of water. It is $\frac{1}{100467100}$ of a grain. That I might view these particles under every possible aspect, I reduced their bulk to cubic lines, when it appeared to be about equal to $\frac{1}{3002120420}$ of a cubic line.” Spallanzani's Dissertations, vol. ii. p. 212.

Among the more general and least known causes of sterility may be mentioned those which would seem competent to exert their power only during certain ages, and under certain circumstances as to states of constitution and moral temperament of the individual subject to their influence. “On the 20th of September, 1681,” observes Mauriceau, “I attended in her confinement a woman aged thirty-three, with her first child, of which she did not become pregnant until after the lapse of nine years subsequently to her marriage: and she has had no more children, although her constitution has never been any other than a good one. This person was, in fact, of the number of those who are sterile for a given time, and who with age becoming the subjects of a change of temperament, acquire an increase of the power of fecundation. Her fecundity, however, proved so inconsiderable as to its amount, that she again immediately lapsed into her former state of sterility.” Mauriceau, *Malad. des Femmes*, vol. ii. p. 238. The same excellent writer, vol. ii. p. 303, cites a case of sterility of fifteen years' duration. Of that period, the first twelve years elapsed without the patient having experienced any serious ailment. But during the last three years she was the subject of a protracted malady; which, indeed, had the effect of reducing her into a state of extreme debility; but for which an efficient remedy was eventually found in the waters of Vichy: for after the latter of two visits, the one paid in the spring and the other in the autumn of the same year, and drinking on each occasion the celebrated tonic and aperient waters of that place,

she recovered a surprising degree of health, accompanied by much improvement of her general appearance and by a proportional accession of flesh. In about four months, this result was followed by conception; and in her thirty-fifth year the subject of the case was happily delivered of her first child. A somewhat similar case of sterility, one of fifteen years' duration, is also reported by Mauriceau, in his 191st observation; to which he has appended the still more interesting cases of Catherine de Medicis, Queen of Henry the Second of France, who had been married ten years before she gave to her husband any promise of an issue, but in the sequel blessed him with a numerous family; and of Anne of Austria, who, after a sterility of twenty-two years, gave to the same country one of its most illustrious monarchs, Louis the Fourteenth. The change of temperament here referred to, as favourable to fecundity, is usually to be identified with a more or less obvious improvement in the condition of the subject physically: but it may also sometimes be imputed, although perhaps less frequently, to powerful moral influences. A case remarkably illustrative of this kind of influence occurred some years ago within the immediate cognizance of the author. A lady, aged twenty-four years, of a somewhat delicate constitution, of a sanguineous temperament and of warm affections, became the mother of her first child in the sixteenth month of her marriage. Although exceedingly well formed as to the dimensions of her pelvis, she sustained a labour of considerable severity, and her convalescence proved tedious and otherwise unsatisfactory. During her feeble and very protracted recovery, it was manifest to every body but herself, that she performed the duty of lactation most inefficiently; and whilst struggling against all rational hope of success to persevere in its performance, she became suddenly the subject of a paralytic affection of the muscles of the left side of her face. The suckling was laid aside, tonic medicines were prescribed, and the patient was sent to Buxton, where she bathed and rode out in a carriage daily, and where she remained pursuing the same measures with great advantage for about nine weeks. She then returned to her family perfectly recovered in all respects. In the course of a few weeks subsequently, she menstruated very properly and healthily, and that function was from that time forward duly re-established; nor was the subject's sexual health afterwards disturbed or compromised by any interruptions or morbid accompaniments of any of the functions most immediately subservient to the interests of fecundity. Nevertheless she experienced a suspension of that power for upwards of five years. But the author was quite certain that no ORGANIC disqualification for reproduction could have existed; inasmuch as no structural injury could have been sustained during the puerperal confinement which, however it would appear probable, had operated as a cause of the several years of unfruitfulness which followed. The power indeed existed; but it had probably been enfeebled by the events of the period alluded to, and required for its resuscitation the agency of some peculiar and more than ordinarily operative cause of excitement of the generative system. The lady's only child, a fine

active boy, nearly five years old, became accidentally and indirectly the agent of a cause of this kind, by falling from the top of a high flight of stone steps attached to an out-building, which was not guarded by any sort of railing. He was seen to fall on his head; and although he cried lustily when he was taken up, he was soon afterwards seized with symptoms of oppressed brain. These symptoms yielded, however, in a day or two, to the active measures which were had recourse to for their subduction, and the child's life was consequently declared out of danger. This assurance was received by the mother with so much delight that, to make use of her own expression, "it made her almost wild with pleasure." Thus she became the subject of a more than ordinary excitement of her moral temperament, and the excitement thus produced had the effect of rousing the dormant sensibility of the uterine system; for she has always believed that she conceived of her second child during the extraordinary tumult of her spirits which she experienced on that occasion. The same lady has since become the mother of six more children.

Constitutional diseases of almost every kind and name, with the exception, perhaps, of some pulmonary complaints, are upon the whole to be considered as unfriendly to the function of reproduction. As to the action in this respect of acute diseases, such as fevers, the phlegmasiæ, and some of the principal neuroses, they must be deemed principally, if not exclusively, operative, during the presence of the disease, and for a short time subsequently to the patient's recovery. It has, however, been reported on credible authority, Capuron sur les Maladies des Femmes, p. 254, that women have sometimes conceived and become actually pregnant during paroxysms of hysteria, syncope, lethargy, and even during states of apparent suspension of all the functions of life.

We have already observed that conception and pregnancy are not absolutely incompatible with certain diseases of the uterus and its appendages, provided they were of a nature not to compromise the practicability of the conjugal act, nor that of the transmission of the semen masculinum to its proper and ultimate destination. Hence are abundantly recorded cases of pregnancy complicated with uterine polypi, hydatid formations within the uterus, intercommunications between the vagina and its contiguous organs, together with sundry morbid affections of the ovaries and Fallopian tubes, or at least of one ovary and one Fallopian tube, and partially possibly of both systems of these lateral appendages of the uterus.

It is a general opinion, and one, it would seem, well founded in fact, that excess in the use of the means of impregnation is upon the whole unfavourable to the interests of fecundity. Hence the almost uniform sterility of the more public prostitutes. In the instance of many such subjects, however, it is worthy of observation that their sterility may also be partially attributed to other excesses incident to their course of life, and especially to their habitually immoderate use of spirits and fermented liquors. It has been asserted that the abuse of spirituous liquors has had the effect of greatly checking the population over very

extensive districts of Russia, where that deleterious habit is said to prevail to a degree happily unknown in more southern latitudes. But it would seem scarcely right to pronounce the abuse of spirits to be the only or perhaps principal cause of the thinness of the population in the countries here referred to. It is probable that the infecundity of their females may also in a great measure be attributable to the circumstances of destitution, as to many of the means and comforts of life to which they are especially exposed. Add, moreover, the frigifying influence of their climate. "The human race," observes M. Fodéré, "is also, doubtless, the subject of favourable conditions in respect to its existence and its means of multiplication. A humid warmth of climate is that which would appear most to suit it, not so much, indeed, as a means of long life, but as a condition of its easy and rapid propagation. The extremes of heat and cold, and of dryness and humidity, are conditions of climates less favourable to the multiplication of our species. Lower Egypt has, at all periods, been represented as an immense nursery both of the human species and of animals. The same prodigious activity of the function of reproduction appears to extend along all the great rivers of Africa. The sea-coasts, both of the ocean and of the Mediterranean, are extremely densely populated; a circumstance as much probably to be ascribed to the sweetness of the climate as to the habit of living upon fish, of which the meat is nutritious and easy of digestion, to which the inhabitants of those countries are addicted. Higher Egypt, on the other hand, the arid regions of the interior of Africa and Arabia, and all those countries which approach the arctic pole, and which stretch beyond the sixtieth degree of latitude, are less numerously peopled. In the province of Nice, after having witnessed the greatest fecundity in the basin which surrounds that town, and which forms its immediate territory, as also that of the valley of Nervia, we are surprised on ascending the heights of Perinaldo, to observe what a great number we meet with of young women who have never menstruated, and of married women who have never had families. I have likewise had occasion to make similar observations at Beuil, a district northward of the same plains. Both of these communes have their localities on very dry and elevated tracts of country; the one however having the advantage of a warm and genial aspect, whilst the other is exposed to one of an icy coldness. Again, whilst practising my profession at Martique, a neighbourhood peopled by fishermen and sailors, and remarkable for its swarms of children, I was often consulted by the inhabitants of Cape Couronne, which was not more than two leagues distant from Martique, for amenorrhœa and sterility. Now the elevated platform of Cape Couronne is precisely similarly situated in respect to its climate with the heights of Perinaldo." Fodéré, *Pathologie et Médecine légale de la stérileté*, Dict. des Scienc. Médic. p. 517. Of the different countries of Europe there is not one in which the reproduction of the human species is carried on more vigorously at the present moment, although in despite of many disadvantages, than Ireland. What are the peculiarities of its condition and

those of its inhabitants? It is situated in a temperate climate. It is every where surrounded and bounded by sea, and therefore actually immersed in an equable and salubrious atmosphere. Its land is remarkable for its fertility. In respect to its inhabitants, it is at once obvious to common observation that their parent stock must have been hale and vigorous, and that their women are still naturally wholesome and prolific. They lead in a great measure not only a rural, but even a Scythian sort of life; their cabins only serving to shelter them for a few brief hours out of the four-and-twenty from the occasional rains and abundant night dews incident to their climate. Their half-moral and half-barbarian habits are such as might seem not a little calculated to sustain the natural buoyancy of their spirits, to impart strength to their limbs, soundness to their constitutions, and a tone of rustic and adventurous bravery, and of a happy carelessness of consequences to the whole of their character and deportment. The enjoyments of the present moment, and the realizations of the immediate future, are in fact the essential constituents of the summum bonum of the true sons and daughters of Erin. Hence no doubt the great frequency, the almost universality of their early marriages; and hence consequently and perhaps chiefly the remarkable and almost equally universal productiveness of their females. Simple in their diet as the invaluable esculent of their country, they can seldom anticipate any want absolutely essential to subsistence beyond the reach of their own personal resources to procure the means of satisfying; and therefore, without incurring any conscious liability to the charge of improvidence, they are induced at an early age to yield a willing obedience to the dictates of their youthful hearts; and to encourage them to proceed without delay to a further and more practical obedience at once to the same powerful dictates, and to the first great commandment of Almighty God to our original progenitors, Genesis i. 28, they find the venerated functionaries of their religion ever ready, and even always eager to legalize their affiances by the required sanctions of the church.

Women are sometimes at the commencement of their sexual life abundantly endowed with the natural attribute of fecundity, who afterwards sustain a great diminution or even an entire loss of that power in consequence of injuries received during severe or mismanaged childbirths, or from one or more abortions or premature labours, from inflammations and ulcerations consequent upon misconduct on the part of their husbands, or upon exposure to any other impurities whatever capable of being propagated to the uterus, and competent when so propagated to disturb the organization or even considerably and permanently to vitiate the actions of that important viscus. Hence is it not at all an uncommon case for a young and apparently healthy woman to have one or two children, and then to become the subject of some irregularity of the menstrual function, or of a leucorrheal discharge, which she might never before have experienced, accompanied by pains about the small of the back, loins, hips, groins, upper parts of the thighs, or of the tissues more immediately referred to the interior of the cavity of the pelvis, and thus to be

for ever afterwards condemned to a life of hopeless sterility. It is moreover a fact easily to be understood, that the lateral appendages of the uterus, including both the ovaries and Fallopian tubes, in common with that organ itself, are exceedingly liable to sustain injuries of the most serious character, both of their textures and functions, in consequence of the extreme pressure to which they are sometimes exposed during the presence and progress of a labour of great severity. How frequently do we not hear our married female patients impute symptoms especially implicating their sexual health to the incidents of a former labour; identifying their commencement with the utmost distinctness and confidence with the date of the particular labour referred to.

Of the precise characters and specific results of ALL the injuries inflicted on the function of reproduction by the incidents of difficult and laborious births, we are scarcely yet in possession of sufficient knowledge to enable us to offer an adequate pathological enumeration of them. We are indeed but imperfectly acquainted even with such of them as authors have usually referred to the class of structural lesions; whereas we really know so little of any lesions of the function itself independent of corresponding and APPRECIABLE lesions of its appropriate tissues, that some modern writers have actually hesitated not to deny the very fact of their existence.

In cases merely of suspended or exhausted fecundity, the power being known to have previously existed, there can generally be no room for doubt as to the party on whom should be fixed the charge of unproductiveness. In many other cases however; cases for example of unprolific marriages from the commencement; the medical attendant would practise his profession very partially and often very inefficiently, were he to limit his inquiries to the disqualifications of ONE OF TWO PARTIES, of whom the concurrence of both are equally indispensable to the production of the proper result. It seems therefore necessary that we should here append to the above enumeration of the more ordinary causes of sterility in the female, a brief sketch of the disqualifications for reproduction imputable to the male.

The causes of sexual impotence in man, are principally, the absence or deficient development of one or more of the organs employed in the generative act; the absence or defective magnitude of the penis; some obviously inconvenient peculiarity of form, as that of an extraordinary curvature, or a preposterous size of the same organ; the absence of spermatic arteries, as was the case of a subject quoted by Riolanus; the want or insufficient development of the testes, as also scirrhusities and other disqualifying morbid affections of them; obstruction and obliteration of the vasa deferentia or of their ejaculatory passages by morbid thickening of their parietes, cicatrices, fungous growths from their mucous linings, or in consequence of pressure made upon them by calculous concretions contained within the bladder or in the prostate; spasmodic constriction of some part or of several portions of the generative apparatus, as is sometimes the case with persons of excessive sensibility and irritability; excess of

ardour or of the orgasm of the venereal act; occlusion or an imperforate state of the urethra; an obstinate spasmodic contraction or stricture of the same passage; certain extreme forms of phymosis; certain varieties of hypospadias; as when the urethra instead of being carried forward to the point of the penis, has its orifice near its root or on its dorsum, on its inferior surface, or on either of its sides; palsy of the ischio-cavernous muscles, whether from too much riding, as Hippocrates is said to have observed in this respect of the Scythians; Capuron, *Malad. de Femmes*, p. 258; or in consequence of injuries from falls on the back or on the sacrum; in short, all circumstances whatsoever competent to destroy or in any considerable degree to impair the several functional powers of erection and introduction of the male organ and the consequent ejaculatory emission of the semen masculinum into the vagina. The practitioner should not be too hasty in pronouncing upon the absence or non-development of the testes of which the presence may not be very apparent on a first view of the parts, as happens for example in some rare cases of original non-descent of these organs, and also occasionally in cases of certain diseases during the presence of which they have been known, even in adults, to have been retracted into the abdominal cavity. The absence or privation of one testis is not to be considered a cause of impotence. The author is acquainted with a gentleman who is now the father of a numerous progeny, who suffered a partial mutilation to this amount in his infancy. It has been reported that the Hottentots occasionally submit to be deprived of one of their testes, with a view to the improvement of their powers of agility.

On undertaking the TREATMENT of a case of sterility, it should be made the first object of the practitioner to endeavour if possible to discover its cause. On the supposition of its being a variety of absolute sterility, and presumed to depend upon any structural impediment to the proper consummation of the sexual act, he will probably have received some general intimation of the nature of the case from the patient's husband. The greater number of cases of this class will be found to depend upon the presence of an unruptured hymen; and the remedy would consist in a crucial incision of the impeding tissue.

The author has more than once been consulted on account of extreme pain and difficulty encountered in the performance of the sexual act, by reason simply of more than ordinary contractedness of the inferior portion and external orifice of the vagina; the characteristic appearance of the remains of a hymen furnishing a sufficient proof of that structure having been previously ruptured. Difficulties of this kind are usually remedied by the use of tents, which however will not unfrequently require to be used, gradually increasing their size, for an indefinitely long time. In one case after the failure of a sponge tent, a failure however probably in a great measure to be imputed to some awkwardness in the mode of its application, the object was eventually attained by the introducing daily into the vagina a round wooden instrument of about an inch and a half in diameter. The operation was at first attended with considerable

difficulty; and although it was performed with the utmost caution and slowness, it failed not for the time to occasion to the patient a very painful sense of distention of the parts which it affected. Any preternatural septa or fræna connecting the parietes of the vagina together in such a way as to cause mechanical obstacles to the due discharge of any of the proper functions of that passage, will generally admit of being removed by very simple operations of surgery. In cases of absence of the uterus, there is also for the most part either the entire absence of a vagina or a very defective development of it. See a preceding article on the diseases of the vagina, p. 112. See also Baudelocque's *Midwifery*, translated by Heath, vol. i. p. 215. *Journal de Médecine*, tom. lxxi. p. 274. *Mém. de la Societ. Méd. d'Emulation*, tom. ii. p. 470. *Comment. de Reb. in Scient. et Méd. etc.* 1779, tom. xxiii. p. 155. Morgagni de Sed. et Caus. Morb. Epist. xlv. Art. 12, 20 et 21. This fact will be distinctly ascertained by passing a catheter into the bladder, and the index finger of the left hand into the rectum. In the event of the vagina and uterus being wanting, the catheter will be felt throughout its course along the urethra as easily and distinctly from the rectum as under the circumstances of a natural conformation of the parts it is usually felt from the vagina. Were it necessary, other indications would probably in a case of this kind present themselves to support our diagnosis; as for example, some other peculiarities of conformation, viz. a deficient development of the mammæ, the growth of hair on the chest, a beard of almost manly strength on the chin and upper lip, an unfeminine harshness of the voice, an approach to a masculine character of the mind and its tastes and habits, and possibly a great indifference, or at best a cold sensibility, to the tenderest of all the heart's affections. A case made out as now represented could admit of no remedy.

Again, the vagina might be made up by the presence of preternatural growths and tumours, either adherent to its own parietes, or transmitted to it from its immediately adjoining organ, the uterus. The curableness of a case like this would depend upon the textural character of the morbid vaginal charge, and especially upon its connexion with the parietes of the vagina being such as to admit of its being safely separated from it.

Another variety of impediment, at least to a fruitful consummation of the sexual act, which ought not to be omitted to be noticed in this place, is an extreme contractedness or obturation of the passage through the mouth and cervix of the uterus. Mauriceau quotes several causes of sterility, which he imputed to too much narrowness of the passage through the orifice and cervix of the uterus to admit of the transit of the semen masculinum. Mauriceau sur les Maladies des Femmes, Obs. 442, p. 366. Obs. 503, p. 417. Obs. 516, p. 428. Obs. 587, p. 484. Dr. Mackintosh, the highly respectable lecturer on midwifery and medicine at Edinburgh, has for several years adopted a similar theory, and has assured the author that he has repeatedly accomplished cures of sterility and dysmenorrhea by effecting an artificial dilatation of the very

narrow genital passage which forms the subject of the present notice. The only, or at least principal objection which the author has felt to this practice, is the difficulty he has almost in every instance encountered of persuading his patients to submit to it, whether he had suggested its adoption as a remedy for dysmenorrhea, or for sterility complicated with any morbid condition of the catamenial function. In other respects, and combined with other measures, it does not seem to be an unpalatable remedy. It seems, moreover, to be a matter of doubt as to how far the contractedness of the orifice of the uterus, provided it be supposed permeable at all, should be admitted into the list of positive causes of sterility. As to the other impediment to the due transmission of the semen masculinum to its ultimate destination, just noticed as an occasional affection of the orifice of the uterus, viz. the total occlusion of it by a membranous septum, or any other variety of imperforate tissue stretching across or otherwise impermeably charging its lumen, it is obvious to observation, that it may prove remediable or not, as it may or may not admit of being removed by an operation. A mere membranous septum or frænum, however dense its texture or unrupturable by any moderate force of pressure, would of course in most cases admit of being treated by puncture, or some similar mode of efficient perforation. Cases are numerous recorded both of sterility and of diverse disturbances of the function of menstruation having been produced by carunculous and polypoid excrescences occupying the mouth and cervical passage of the uterus. *Com. de Rebus in Scient. Nat. et Méd.* vol. ii. p. 24. Lips. 1753.

In the treatment of cases of this description, modern practice is indebted for many important advantages to the use of specula matricis. The improvements which of late years have been made in the construction of these instruments have been such, that by means of them the most delicate operations may now be performed within the interior of the vagina, and on the vaginal portion of the uterus, including of course its orifice, and a part at least of the passage through its cervix, with much comparative facility.

The opportunity which it must furnish the practitioner to examine as it were in the open day the locality and condition of the part to be operated upon, in cases for example of which the following may be quoted in illustration, in common with many others, cannot fail to add greatly to his confidence, both as to the correctness of his diagnosis, and soundness and safety of his practice. "Catherine a washer-woman, was married at thirty-six years of age. She had never menstruated; but she had experienced no serious inconveniences from the total absence of the catamenial function. During the years which immediately followed her marriage, she experienced from time to time violent uterine colics, which were attempted to be remedied by bleedings, pediluvia in soaped water, and the internal use of emmenagogues. These means usually relieved the pains, and in the course of a few days the patient found herself in a situation to resume the exertions of her vocation. She sometimes went two or three months without at all experiencing these pains. Towards the

latter part of 1790, I was requested to see her conjointly with my late father. At that time she was suffering insupportable pains, for the relief of which the means hitherto employed appeared perfectly inefficacious. On attentively examining the abdomen, we could feel in the middle of the hypogastrium a considerable tumour, which was hard and without any sensible fluctuation, but painful to the touch. The urinary secretion had suffered no derangement, and the application of the hand to the tumour excited no sensation relatively to that function. It was easy to judge that the tumour depended upon retention of blood in the cavity of the uterus, of which the orifice was closely shut up. We then conceived the idea of making an incision into the neck of the uterus, in order to give egress to the blood; and the operation was thus performed. The woman was made to lie across her bed with her thighs and legs separated, and kept in that situation by an assistant on each side of her. One of these gentlemen, with his hand applied to the abdomen, pressed the tumour firmly, and directed it towards the vagina; into which having passed my finger, I felt a kind of groove at the place which I presumed ought to have been occupied by the os tincae. I considered that there the incision ought to be made. I therefore took a long narrow bistouri, guarded with a little bandage of linen, as far as within about an inch of its extremity, and passed it entirely up along my finger as far as I judged might be necessary, and then incised the vaginal part of the uterus transversely in a convenient direction. Scarcely had the instrument been withdrawn, when there issued out a great quantity of fluid blood without any offensive smell. To prevent reunion of the wound, I passed up between its edges a tent of linen, fastened to a riband, which was attached to a body bandage. The woman was then put into a situation calculated to favour the escape of any blood which might remain within the cavity of the uterus; and emollient fomentations were applied to the abdomen. The first days after the operation, the patient had some fever. Blood escaped from the part for a few days, and then it ceased. This woman, who before the operation now described was seldom for two months together without considerable suffering, was so importantly relieved by it, that she speedily recovered a good state of health and strength, and soon after acquired an agreeable embonpoint. The catamenia, however, did not appear at the expected time; and we were obliged to have recourse to a repetition of the same measures, in order to prevent any inconveniences which might arise from this new retention. A very satisfactory state of things then supervened, and continued till the month of February 1796. The same accidents then presenting themselves, and with the same violence, I again had recourse to the operative procedure of which I have just given the description; and it was crowned with the same success. In a month afterwards, the patient sustained a sanguineous discharge, analogous to that of menstruation, which was preceded and accompanied by very strong pains of the hypogastrium. This evacuation was kept up for many months, and at length ceased without any accidents. The subject of the observation had

never had any children; and she died two years ago without any accidents." Communicated by M. Chevallier, Doctor in Surgery. *Corvisart's Journal de Médecine*, vol. xviii. p. 186.

The absence of cavity within the body of the uterus, or obliteration of the natural passages within the Fallopian tubes, together with all other diseased states or defects of organization of the lateral appendages of the uterus competent to produce the second class of absolute sterility already noticed, must be considered as being severally and equally beyond any means we possess of arriving at any correct knowledge of them, as they are beyond the reach of any known remedy. Thus limited as to the elements of his diagnosis, the obstetric physician finds himself obliged to undertake the treatment of all the cases of sterility appertaining to this section of its pathology, with the hope that they might prove to be, BUT SUBJECT TO THE UNCERTAINTY OF THEIR NOT BEING examples of functional, and therefore probably of curable barrenness. This no doubt is one great reason why the treatment of sterility is so often, and so much as it really is, an opprobrium medicorum. The treatment of relative sterility must accordingly very frequently proceed on exclusively conjectural principles as to its cause.

The influence OF AGE on the faculty of reproduction has already been noticed. The susceptibility to conception is said to be most vigorous between the ages of eighteen and thirty. Very early marriages are observed in many cases not to be productive till after the lapse of a few years subsequently to their celebration, when they often become so. But late marriages, such for instance as we may suppose to be contracted, on the part of the female, between the ages of thirty-five and forty-five, are much less promising than very early ones; inasmuch as in the one case, the chances of issue improve with every year, whilst in the other they sustain a more than proportional diminution. The indications of treatment in both are in some respects founded on the same or very similar principles. They chiefly consist in the adoption of such measures as are known to be best calculated to promote and to sustain a sound state of the general health, and an accurate and well-balanced performance of the functional actions of the system. Cases of sterility presenting themselves at advancing periods of life, are usually considered to be much benefited by the frequent use of warm-baths; a practice which probably originated from a notion now considered rather antiquated, that the sterility in such cases is an effect of rigidity and diminished mobility of the generative organs, the removal or subduction of which the genial warmth and moisture of tepid bathing is well calculated to promote. Without insisting on the truth of this or any other hypothesis as to its mode of action, it is scarcely possible to attach too great a value to this important power as a means of improving the constitutional health of a feeble subject.

Again, it may be safely asserted, as a general principle, that a country resi-

dence is more favourable to fecundity than one in a large and luxurious town; whilst even of districts of the same country, some are undoubtedly preferable to others, on account of their greater salubrity. It would appear from the more recent population returns for England and Wales, that the most healthy districts of this country, at the present moment, in which, therefore, human life, on the average scale of the population, is protracted to the longest period, are, Cheshire, Flintshire, the Isle of Anglesea, Pembrokeshire, and Carmarthenshire. It has often been observed, that women who have had no children while residents in towns, have become immediately prolific upon going to live in the country. A respectable lady, who has resided for many years in New South Wales, informed the author, a short time ago, that she had known many instances of females who had ceased to bear children in Europe, becoming the mothers of second batches of children subsequently to their emigration to Botany Bay; adding, that the fact was so notorious that before she left that country it was become the subject of current observation at Sidney.

The kinds of food best adapted for the choice of females wishing to be blest with families, should no doubt vary to a certain extent according to diversities of circumstances. Women of spare habits and rigid fibres, should be encouraged to prefer such foods as are presumed most effectually to unite nutriment and succulency. It is understood, or rather it is pretty well known, that the red meats, viz. those of beef, mutton, and venison, contain most nutriment, bulk for bulk. The most important part of a succulent diet should consist of milk. Women inclined to obesity, and at the same time desirous of escaping from the predicament of being unfruitful to the embraces of their husbands, should almost entirely confine themselves to dry food, abstain religiously from the use of fermented and spirituous liquors, and accustom themselves to sparing quantities of drinks and fluid foods of any kind.

They should moreover take abundance of personal exercise in the open air; a duty which indeed they should practise, properly clad and protected, in almost all kinds of weather.

The most frequent functional cause of sterility is probably an imperfect or morbid performance of the function of menstruation. The reader is already well acquainted with all the lesions of this important function. *Causa sublata tollitur quoque effectus.* To effect their subduction or removal might indeed be beyond the reach of his art. But such nevertheless should be the object of his most strenuous endeavours to accomplish. See the treatment severally recommended in the preceding articles of amenorrhea, dysmenorrhea, metrorrhagia chlorosis, fluor albus, and hysteria.

It has been rather a favourite practice with writers on this subject to insist upon a more than ordinary coldness of the sexual temperament of some women, and to speak of a want of due ardour of their amorous passions, and even sometimes of their total indifference or disgust for the endearments and obligations of connubial life, as an efficient and no unfrequent cause of sterility. This

class of writers have also naturally enough recommended for remedies in such cases, the adoption of measures immediately calculated to raise the tone of the sexual passion by inflaming the imagination, such as mixing in gay society, reading sentimental books, visiting plays and spectacles, where the human figure is displayed in its most beautiful forms and most graceful movements, etc. It was on this principle that the late Dr. Graham of empirical celebrity offered to sterile ladies and their husbands the boasted use of his temple of health and celestial beds. But such practices are founded on theories of the occasional causes of barrenness too narrow and superficial. It is more worthy of the scientific physician to push his inquiries beyond the mere fact of the coldness of temperament here foisted on our attention as a principal cause of sterility. Morbid atony of a natural passion must itself have a cause, and a cause very frequently to be discovered by a careful and skilful inquirer into states of delicacy of the general or sexual health, or perhaps in certain peculiarities of physical condition or of physico-moral or social relationships of its subject. An adequate professional analysis of a case of this description would therefore necessarily include among its objects the ascertainment of the ages singly and comparatively both of the lady and her husband; that also of their healths respectively both before and after marriage; something of their domestic habits as to the existence or absence of mutual affection; the habits of the husband as to sexual morals, and of both as to the use of spirituous and fermented liquors, and as to indulgences in any other profligacies and debaucheries subversive of good health, and unfriendly to the interests of fecundity. That women like men are differently constituted as to the amount of their natural appetencies for the pleasures of sexuality there can indeed be no doubt; but accessorially to this cause of barrenness there is often some other more remote which perhaps it would be more competently and exclusively the duty of the practitioner to discover and to attempt to remove. It has been said of a late noble Duke, that when once on an occasion he was solacing his old age by an act of sexuality not very creditable to the fidelity of his marital bed, he discovered his younger paramour amusing herself with blowing upon and keeping afloat a downy buoyant feather. Now who could have imputed the unproductiveness of this lady, if really she had proved unproductive, to a NATURAL infecundity, or even to any amount constitutionally of inappetency for the gratifications of sexuality? The peculiar circumstances of her case were obviously unpropitious. There can be little community of temperature between January and May.

Consulted by a gentleman's wife on account of great absence of mind, and, in short, of total incompetency on the part of her husband to complete the sexual act which he had the inconsideration to commence, Peyrilhe advised her to make him drink a little more wine than usual immediately before going to bed. The treatment proved effectual. Capuron, p. 262. A parallel case is mentioned by Pinel, of a mathematician, whose connubial duties were disturbed and made of no effect by his constant habit on those occasions of employing his

mind in the solution of mathematical problems. The same innocent stratagem is represented to have proved successful also in that case. It sometimes happens that women are liable to be harassed and rendered comparatively indifferent to the venereal embrace, by inordinate vigour or too much ardour on the part of their husbands. The latter of course in such cases should be made the subjects of treatment, and that treatment should be founded on the general indications of subducing from the physical strength of husbands so circumstanced by at least one AMPLE BLEEDING and by other evacuant remedies, and of cooling if possible the ardour of their moral temperament by an earnest recommendation to abstinence from all known or supposed causes of pruriency of the imagination. A gentleman of strong passions and vigorous sexual powers once consulted the author for a complaint not connected with the present subject. Bleeding was suggested as a principal means required to be adopted in his particular case. He however expressed more than ordinary repugnance to bleeding; and the propriety of that measure being again more strongly urged upon his consideration, he repeated his refusal to submit to it, with some warmth; adding, in explanation of the great reluctance which he had to be bled, that he had once sustained a stage-coach accident, which in consequence of the profuse bleedings and other depleting measures which had then been resorted to, had the effect not only of impairing, but actually annihilating his powers of virility for many successive months. For the sake of both husband and wife in cases of this kind, and for the interests of fecundity, it might be of substantial use to advise an occasional separation of beds; which might also be usefully accompanied by an intimation to both parties that conception most frequently takes place either immediately or very soon after the recession of the menstrual secretion. It can scarcely be within the scope of the present article to go into a full consideration of the treatment, whether medical or surgical, of impotence in the male subject; whilst, however, without adequate power for the prolific exercise of the generative function in the male, it is obvious that the procreative faculty, although it may really exist, and even be vigorous, must ever remain dormant in the female. The older writers have strongly recommended the use of many substances, both dietetic and medicinal, as antiphrodisiacs, which are now believed to be possessed of little or no virtue; for not to mention a long list of antiphrodisiacs and antiphrodisiac practices, derived from magic and witchcraft, which the reader may consult in an essay on sterility by Sennert, vol. iii. p. 109, and which are quoted by that author with perfect gravity, as of remedies of barrenness; it has not been unusual with writers, of the two last centuries, to recommend the use of diverse forms of messes, partly medicinal and partly dietetic, having in their compositions pignut, celery, and carrots; several of the alliaceous plants as garlick, onions, and especially leeks; sage, which in ancient Egypt was considered the most powerful of all antiphrodisiacs; chocolate and coffee; amber, musk, opium, and cantharides; to which they have added as general auxiliary

measures equitation and flagellation; and of later years electricity. The only actual stimulants however of the reproductive faculty, for such they are more entitled to be called than remedies of impotency and sterility, are such medicines and measures as are calculated either to excite the genitals and the organs immediately contiguous to them, as are probably the alliaceous roots, some of the substances called antispasmodics, the uva ursi, cantharides, equitation, and electricity in the form of small shocks passed through the region of the pelvis; and those which are calculated to improve the health and strength of the general system, which are for the most part included under the three principal heads of alteratives, tonics, and tonic measures, the varieties and modes of administration of which have already been amply detailed in several preceding articles of the present work.

CHAP. VII.

OF PECULIAR CONFORMATIONS AND STRUCTURAL DISEASES OF THE UTERUS.

OF THE CONGENITAL ABSENCE OF THE UTERUS.—A few notices on the occasional absence and mal-formations of the uterus, can scarcely be deemed an inappropriate introduction to a consideration of its manifold and most important structural diseases. It has almost always happened, that when the uterus has been ascertained to have been wanting, there have appeared in the external conformation of the individuals so circumstanced, certain peculiar manifestations indicative of the imperfect condition of their sexual organization. These are observed to consist either in a defective development of organs and of forms peculiarly feminine, or in the manifestation of forms, of complexion, of attributes of parts, and of the general character of the entire being, more or less appropriately or decidedly masculine. Thus are persons congenitally without uteri, if they live long enough to arrive at adult age, that tertium quid variety of our species, scarcely women in appearance and certainly not women in fact, that are usually called viragines; that is, as the term imports, women having the resemblance of men. The resemblance in question, however, is in most cases but very imperfect. The mammæ indeed are not more developed than those of men. Persons of this conformation have also generally a beard, which greatly exceeds in strength that of the soft and almost invisible down which is seen so lightly sprinkled over the lateral and inferior parts of the female face; but which usually is neither so strong nor so thickly set as the ordinary beard of the adult male subject. The chest and shoulders are broader than those of a well-formed woman. The projections at the hips are also less considerable than those considered most beautiful in the architecture of the female figure. The voice is neither a good treble nor yet a tenor; and when a counter-tenor, its tones are destitute of all pretensions to sweetness. It moreover forms a part of the description of these poor subjects of the neuter gender, that, in their tastes and general habits, they are more addicted to the more valiant and even laborious pursuits of men than to the lighter, more domestic, and less adventurous occupations of females. Their external genitals are usually but slightly developed, and, for a reason which will presently appear, they are often utterly destitute of the reproductive passion and its attendant affections as they properly appertain to either sex. The subject of congenital absence of the uterus, however interesting by reason of

its curiosity, is one which on account of its being absolutely devoid of all practical tendency beyond its mere conduciveness to promote the interests of correct diagnostics, does not admit of being made the theme of any lengthened remarks. Any reader who may feel a wish to make himself familiarly acquainted with its minuter details, may easily do so by consulting at his leisure the following recorded examples of it.

Columbus de Re Anatomica, lib. xv. p. 495, gives the case of a woman, whose external genitals were regularly constituted, in whom he found neither uterus, nor ovaries, nor Fallopian tubes. Bousquét, *Journ. de Méd. Paris*, 1757, tom. vi. p. 128, saw in a foetus the womb and urinary bladder wanting. Meyer, in Schmucker's *Verm. Chirurg. Schriften. Band. ii. s. 299*, had occasion to examine the body of a soldier's wife in which he found neither vagina nor uterus; but in their stead a loose skinny sort of substance which passed off from the peritoneum and filled up the vacant space. To this were fastened the Fallopian tubes and ovaries. The labia pudendi and clitoris were very small, and the nymphæ were entirely wanting. Klinkosch is reported, *Dissert. de Utero Deficient. auctore G. Hill. Pragæ, 1777*, to have met with a case of congenital absence of the uterus in the body of a woman who had never menstruated, in which also the vagina was closed from coherence of its parietes, and there were not to be found any ovaries, nor Fallopian tubes, nor ligaments. In another case quoted by the same author, the external genitals were perfect, and there were present likewise the ovaries and Fallopian tubes; the uterus alone being wanting. Engel, *Dissert. de Utero Deficiente*, published a case of the entire absence both of the uterus and the vagina, in which however all the other generative organs were perfect. It has been observed that the subjects of congenital absence of the uterus, if left possessed of ovaries, have usually retained either partially or wholly the external distinctive attributes of the female sex, as well as its characteristic passions and affections. In illustration of this fact, see Walther, *Dissert. de Obstetricorum Erroribus, Lips. 1729, § 7*. Morgagni, *Epist. xlv. art. 13. Imperforatæ mulieris uterum prorsus Carentis Observ. Anatomic. Cremon. 1744, Auctore D. Fromond. Theden, in Nov. Act. Curios. tom. vi. obs. xx. p. 105. Hemmann's Medicinisch. Chirurg. Auffätze, Berlin, 1778, s. 244. Boyer Mém. de la Société Médicale d' Emulation, tom. ii. n. 19. Voyez aussi Recueil Périodique de la Société de Méd. vol. vj. p. 128. Voigtel, Band ii. p. 452.*

OF DEFECTIVE DEVELOPMENT OF THE UTERUS.—Deficient development of the uterus is usually accompanied by the same peculiarity of conformation of other parts and of defects of sexual character as have been observed to attend the total absence of that viscus. Of this variety of visceral malformation there are not many cases recorded. The following notice of one, communicated to the Faculty of Medicine by M. Cloquet, may serve to give the reader an idea of the amount of deficient development most frequently occurring in

cases of this kind. "M. Jules Cloquet has presented to the society of the faculty the sexual organs of a young woman, twenty-two years of age, who had never menstruated, who had the appearance of never having arrived at the state of puberty, and who died of a polypus in the nostrils, complicated with a carcinomatous affection of the right lachrymal gland. The uterus, which was pale and discoloured, was adhering to the posterior surface of the bladder, and was not larger than that of a child of a year old. The ovaries and Fallopian tubes were, on the contrary, quite developed; but the vagina was very small. The remarkable smallness of size of the uterus in this case is not to be imputed to any reduction of its bulk from atrophy, but to a want of increment of its proper tissue from an early age, whilst the surrounding parts proceeded as in ordinary cases to be developed." *Journal Général de Médecine*, tom. lxx. p. 274.

OF DOUBLE UTERI.—Double uteri furnish us with an example of a much more frequent variety of malformation than that of its total absence. This interesting example of what might be deemed nature's exuberant cares in behalf of our species, has presented itself under the circumstances of three different varieties. See Voigtel's *Handbuch der Pathologischen Anatomie*, Band. iii. p. 453. Either there is one uterus, with a single uterine aperture and one vagina, the space allotted to the uterine cavity being divided into two parts by a distinct membranous septum; or the body of the womb is found to consist of two parts perfectly distinct and separate from each other, but uniting in a common aperture into a single vagina; or there are two uteri distinct and separate throughout, each having its distinct opening, and each communicating with its appropriate vagina. In a few cases, however, both uteri have had a single vagina in common. Voigtel observes, that in the first two varieties there are found only two Fallopian tubes and two ovaries; BUT THAT IN THE TRUE DOUBLE UTERUS these organs are also double. As to the special genuineness of a double uterus here assumed, the author is of opinion that no example of such a case has ever been reported; and he therefore agrees perfectly with Dr. Robert Lee, *Medic. and Chirur. Transactions*, vol. xvii. p. 475, that "without a single exception, the uterine appendages have been simple, or have consisted of one ovarium and one Fallopian tube annexed to each corner of the uterus, and not of two ovaria and two Fallopian tubes, as the term double uterus would seem to imply."

How does it happen that among the numerous references given by Voigtel to descriptions of double uteri, there does not seem to be ONE true double uterus in the acceptation of the phrase which he makes use of, and which by implication he more than intimates should be placed in his third variety. We are indebted however to the same learned and most laborious writer for another item of intelligence probably better founded, which however the author has not been able to certify by collating the fact of the statement

with the original document to which it refers, viz. that the double uterus first ever described was given to the public by Cattus in his *Introduction to Anatomy*. Isagog. Anatomic. cap. 3. The author is likewise indebted to M. Voigtel for a great number, by far the greater number, of the authorities for cases of double uteri, quoted in the present article. With this intimation the reader is referred to a case of a uterus divided by a septum seen by Riolanus, and reported by Morgagni, *De Sed. et Caus. Morb. epist. iii. art. 21*; to another seen by Silvius, which was bifid like the uteri of multiparous animals. *Anthropograph. lib. ii. p. 197*; and to a third described by Böhmer, *Observ. Anatomic. fasc. ii. obs. 5, p. 58, tab. 5 et 6*. Eisenmann *Tabulæ Anatomic. iv. uteri duplicis observationem rariorem sistentes, 1752*, found in a girl aged nineteen a double uterus, each cavity of which had a separate vagina, and each vagina its separate hymen. To each uterus there was also a separate orifice. But to each uterus there were appended only one ovary and one Fallopian tube, one round and one broad ligament. There was moreover to each uterus only one system of spermatic vessels. Callisen. *Collectan. Societat. Medic. Hafn. p. 146*, published an account of a double uterus with two vaginæ, of which each had its own hymen. Leveling refers to a case which he saw of a bicornuous uterus with only one cervix and one vagina. The description of this case is illustrated by two plates. *Obs. Anat. fascic. i. p. 43, 1781*.

Canastrini opened a woman who died in the fourth month of her pregnancy, and found two uteri, each having only one ovary and one Fallopian tube. One of the uteri was six inches long, and the other only three inches and a half. The smaller one descended obliquely, and lost itself in two small openings in the neck of the other. The ovum had escaped by an aperture in the uterus into the hypogastrium. *Hist. de utero duplici alterutro, quarto graviditates mense, in Hungaria. 1781. Cura August. Vindel. 1788, p. 25*. The following case communicated to the French Academy by Count de Trassan will be read with considerable interest: "A woman forty years of age, having had many children, of whom the youngest was five years old, died of a complaint of the chest. The body was opened, and the assistants were not a little astonished to find an uterus of an extraordinary form, and of which the figure more resembled the heart, as it is represented by painters, than that of a flattened pear, which is its ordinary form. M. Bagard, who was present, remarked that the exterior appearance of the organ indicated two separate cavities, although at the external genitals there appeared but one opening. With this impression he introduced a sound in the direction of this heart-like viscus, and was opposed by a sense of resistance. He then introduced it with an inclination first to one side and then to the other, and found passages on each side, which gave free admission to his instrument. Assured of this fact, he laid open with great care what formed the parietes of the common passage, and two internal orifices came into view. It was manifest that these internal orifices belonged respectively, each to each, to two uteri which were very complete and well organized. The

Fallopian tubes and the broad and round ligaments were however all single. The peritoneal membrane formed exteriorly but one apparent covering; but its internal layer was divided in order to furnish a particular tunic to each uterus. The inspection of these uteri proved that each of them had been occupied by one or more ova; but it is impossible to decide which had been occupied most frequently. This fact, which however is one by no means without a parallel, furnishes a very natural explanation of the cases of superfœtation which we find recorded." "M. de Trassan recollects very apropos the particulars of another case which were communicated to him by persons of the first distinction, near friends of the female who was the subject of it. A lady was delivered at the full period of gestation of a strong well-grown child, and experienced for the six following weeks all the usual consequences of a puerperal confinement. At the end of the seventh week, she was seized with acute abdominal pains, which compelled her to send for her midwife. The midwife having made examination, found that she was again decidedly in labour. In fact, she was delivered after some hours of a SECOND LIVING CHILD, very meagre, and about five months' growth, which died almost immediately. The relations kept this event a profound secret, and no mention was made of it till after the death of the lady." *Hist. de l'Academie. Roy. des Sciences*, 1752, p. 75.

The following case of a female with a double uterus is interesting, on account of a little difference of opinion between two obstetric practitioners, to which the peculiarity of its circumstances gave occasion. We are indebted for its publication to Dr. Frederick Tiedmann, of Heidelberg: "There is in the Anatomical Cabinet of Heidelberg a double uterus, with a double vagina, belonging to a woman who was delivered some years ago in the Maternity Hospital at Manheim, and who died a few days after she was delivered. Before describing this uterus, I will recount a few circumstances of the delivery as they were told me by Dr. Naegele, the curious and important facts of which he had collected from the papers of his late father-in-law, who had been for some years the director of the same hospital. The person to whom the uterus belonged was something more than twenty years of age, of a good constitution, enjoying good health, and pregnant for the first time when she was admitted into the hospital at Manheim. The full period being arrived, she felt abdominal pains, and Dr. Mai examined her professionally. He found the orifice of the uterus dilated and the head engaged, although situated very high relatively to the cavity of the pelvis. Professor Fischer passing through the ward by chance was also induced to examine the patient, and found, as he reported, the orifice of the uterus closed like that of a virgin womb. After his visit he declared that the woman either was not pregnant, or that she must be the subject of an extra uterine gestation. As both practitioners were equally confident of the correctness of their respective examinations, their disagreement produced a slight discussion, and of course on the part of each another examination of the case. It was then perceived that there were two vaginæ and two

uterine orifices, of which latter one was developed, the one on the left side, and the other closed. The labour presented nothing extraordinary in its incidents, and the woman was delivered of a child at the full period of gestation. On the next day she was also found to be doing well; but on the day following, she was seized with acute pains about her left hypochondrium, together with a violent fever, which carried her off in nine days after her delivery. On inspecting the body after death an open abscess was found in the spleen, which had thrown off a quantity of pus into the abdominal cavity. The genital organs were separated, and preserved in spirits. The following is a description of them: On separating the labia and nymphæ the orifices of the two vaginae came into view; and were seen to be separated from each other by a strong membrane. The carunculæ myrtiformes which bordered each aperture, and which were the remnants of the ruptured hymen, furnished a proof that sexual intercourse had taken place in both passages. Both the vaginae were very ample as to their dimensions. The left however was rather larger than the right. There were longitudinal folds as in common, and the two passages were completely separated by a strong and thick membrane. The orifice of the left uterus, the one which was largest and which had contained the foetus was very large, and presented a great transverse cleft with rugged and unequal edges. That which formed the orifice of the right uterus, on the contrary, was but a small cleft, narrow and closed, with edges quite flat, as in women who have never had children. It was also oblique as to its position. The two uteri adherent in the middle externally were separated interiorly by a membrane which completely divided one from the other. The right was of an oval form, and not equal in size to that of a virgin: the left was also oval as to its size, but eight times the size of the right. The parietes of the latter were moreover thick, with very large vessels running through them, and presented that fibrous structure which is usually characteristic of the gravid and recently puerperal uterus. The round ligaments, the Fallopian tubes and ovaries exhibited no peculiarity of character. The two ovaries were larger, and had more vessels than is generally the case during gestation or recently after parturition. The arteries of the left uterus were larger than those of the right." Dr. T. here subjoins the following case: "Having opened the body of a child which had died immediately after its birth, I found at the uterine extremity of a single vagina two ora tincae, each of which conducted to a narrow uterus, from each of which arose one Fallopian tube. This formation seemed to have much analogy with that of the uteri of the *rongeurs*, as for example, the hare, rabbit, marmot, etc. It is worthy of remark, that the same child had but one very large kidney, which was situated transversely across, and to which was attached only one ureter. The two kidneys formed but one individual organ, whilst the uterus, naturally a single organ, was distributed into two uterine cornua, each terminating in an appropriate Fallopian tube." Dr. Tiedmann's communication concludes with a brief notice of a third case of a double uterus. "This uterus," he proceeds to describe,

“ was single in its neck and body, but it divided on each side into two cornua, from the extremities of each of which set off its proper Fallopian tube. The os tincae, which was single, was prolonged into the cavity of the body, which dividing at an obtuse angle, formed two separate cavities corresponding to the two cornua.” *Journal Complement. du Dict. Medic. tom. vi. p. 371. Paris, 1820.*

There is an important case of a double uterus which the author's Irish readers especially will feel gratified to see recorded in the present work : and it will perhaps prove additionally interesting from the fact, that the anatomical remains of its subject, a magnificent preparation of a double uterus with a full-grown child in its left cavity, are still to be seen in excellent preservation in the Museum of the Royal College of Surgeons in London. It is the celebrated case of Dr. Purcell, of Dublin, first published from the communication of Dr. Morton, in the sixty-fourth volume of the Transactions of the Royal Society, p. 474, 1774. The subject of the case had died in labour in the ninth month of her pregnancy ; and was dissected at the Anatomical Theatre of Trinity College, Dublin. “ Upon opening the abdomen, an uterus appeared of such a size and form, as are generally observed at that period. It contained a full-grown foetus ; but it was furnished with only one ovarium and one Fallopian tube, which were attached to its right side. On the left of it was placed a second uterus, unimpregnated, and of the usual size, to which the other ovarium and tube were annexed. These two uteri were totally distinct, and separated from each other, excepting at the lower extremity of their necks, where their union extended a quarter of an inch ; and an acute angle was formed between them. There was nothing extraordinary in the formation of the external parts of generation : but from each side of the meatus urinarius a membrane ran downwards, so as mutually to meet at its inferior angle, and after thus uniting their tissues, to form a column which was produced to the posterior commissure of the vulva. This median membrane formed a sort of septum which had the effect of dividing the inferior portion of the vagina into two tubes of nearly equal dimensions. But each of these tubes did not lead solely to the womb of its own side ; for the right vagina became gradually wider as it ran backwards, and was at least so far dilated as to comprehend within its circumference the orifice of both uteri ; while that on the left side, having taken an oblique direction, ended in a cul-de-sac or cæcum. Such a conformation might have rendered it totally useless ; to prevent which, however, nature, fertile in expedients, seems to have had recourse to a very extraordinary contrivance. This was a fissure in the septum, of an inch in length, and about an inch distant from the womb of that side. Although its circumference was perfectly smooth, we must acknowledge that it must have arisen from an accidental rupture of the septum ; the lips of the wound not uniting, and in process of time becoming callous : and yet I imagine that the parts were originally formed in this manner, in order to preserve a communication between the two vaginæ. Thus it appears that both uteri might be impregnated through either vagina, as that on the right side led directly to both, and as by

successfully copied in fig. 3, of our Pl. xiii. The history is dated August, 1831, the day on which the body of its subject was examined. "The body of the uterus was cleft as it were down the middle from the fundus to the cervix, so as to form two lateral halves, which opened into the cervix like the uterine cornua of most mammiferous animals. The cervix, os uteri, and vagina, presented the ordinary appearances observable at the same period after delivery. The right cornu had contained the fœtus, and it did not differ perceptibly in its form and size from the uterus in common cases a week after delivery. Coagula of the fibrine of the blood were found closing the semilunar orifices of the uterine sinuses, and the whole inner surface was lined with rough irregular flakes of deciduous membrane, or a layer of the fibrine of the blood. One ovarium and one Fallopian tube were connected with this cornu, and the same was the case with the unimpregnated cornu. Both ovaria were enlarged; but the right was much larger than the left, and contained a corpus luteum. In the left ovarium no corpus luteum existed. The left cornu was about the ordinary size of an unimpregnated uterus. Its parietes when divided were observed to be unusually soft and vascular, and its internal surface was every where coated with a delicate and beautifully-formed deciduous membrane. At the opening of the cornu into the cervix, the deciduous membrane formed a shut sac; but it presented a smooth circular opening at the uterine orifice of the Fallopian tube. The fibres of this membrane as they approached the opening of the tube ran in a converging direction, like radii to the centre of a circle, and passed into the opening, leaving it completely pervious although of the ordinary small dimensions. The distance to which the fibres of the deciduous membrane extended into the Fallopian tube could not be clearly ascertained, nor was it positively determined if the whole extent of the canal was open." Transactions of the Medical and Chirurgical Society, vol. xvii. p. 474.

For the following references to cases of published double uteri, the author is almost exclusively indebted to Voigtel's list, as given in the volume already quoted, pages 454, 455, 456. *Messis aurea Anatomica*, Hemsterhui Auctore, Heidelberg, 1659. tab. viii. Bonet. *Medic. Septeintz. collat.* vol. ii. p. 6. Bauhin. *Fr. Rousset. de part. Cæsar.* Basl. 1552. Peyer, *Miscell. Nat. Curios.* decad. ii. an. 2. obs. cxi. p. 267. Hartmann. *Miscell. Nat. Curios.* an. 5. obs. lxxviii. p. 147. Sennert. *Pract. Medic. lib. iv. pt. i. § 2, cap. 9.* Palfyn. *Descript. Anatomiq. des parties de la femme qui servent a la Generation*, tab. vii. fig. 1—3. Syncei. *Hist. Mexican.* p. 547. Dionis, *Cours de l'Anatomie de l'Homme*, p. 39, et *Ephemerid. Germanic.* dec. ii. an. 2. in appendice. Paulini, *Ephemerid. Germanic.* dec. ii. an. 5. append. obs. cviii. p. 68. Hummel, *Commerc. Literar. Norimb.* 1733, *Hebdom.* xx. p. 196. Saviard, *Nouveau Recueil d'Observ. Chirurg.* p. 398. Perrin. *Journ. de Med.* 1760, tom. iii. et *Samml. Auserles. Wahrnehmung.* b. iv. sect. 245. Haller. *Opusc. Pathologic.* obs. lx. p. 152. *Progr. de renib. monstros. et uteri duplici Observationes*, Götting, 1750. *Element. Physiolog.* tom. vii. pt. ii. p. 57. *Comment. in Pre-*



lect. Boerhaavii. tom. v. § 2. Icon. Anat. fasc. ii. fig. 2. Gravel de Superfœtatione in Halleri Collect. Disput. Anatom. vol. v. p. 385. Valisneri Opp. tom. i. p. 357. Baggart. Traité Pratique de l'Hydropisie et de la Jaunisse; auquel on a joint Observ. Anatomiq. par M. Marquet, p. 144. Hist. de l'Acad. des Sciences, 1752, p. 111. La Marche Instruct. familières et utiles aux sages femmes pour bien pratiquer les accouchemans, tom. i. fig. 1, 2. Cruger's case, communicated by Morand, Mémoires de l'Acad. des Sc. 1743, p. 86, 119. De Sue's case, Mém. de l'Acad. des Sc. 1746, p. 43. Maii. Commenc. Literar. Norimb. 1733. hebd. 25. Huerfleisch Physiolog. th. iii. s. 404. Forlani Rarior. obs. medic. pract. anatom. p. 24. Boes, Uteri per morbum bifidi exemplum, Lips. 1779, übers in Weiz N. auszugs. b. xi. s. 95. Walter, über die geburtsth. das weibl. geschlets, fig. 3. Nouv. Mém. de l'Acad. des Sc. a Berlin, 1774, p. 81. Boesfleisch in Act. Academ. Mogunt. 1761, vol. iv. p. 451. Lentfrink. Geneesk. Tydschrift. d. i. p. 269, et seq. Osiander Annalen, b. i. st. i. s. 213. Commenc. Literar. Norimb. 1738, p. 164. Comment. Lips. vol. xvii. p. 51, 688. Acta Med. Berol. decad. i. vol. xiii. p. 431. Medic. and Philosoph. Comment. vol. i. p. 432. Baddinger's Neues Magazin für aerzte, b. iv. s. 65. Comment. Lips. vol. xii. p. 79. Three cases by Phil. Fr. Meckel. Journal für Anatomische varietaten feinere and Pathologische Anatomie, band. i. et heft. i. Halle. Philosoph. Transactions, vol. iii. p. 209.

OF MALPOSITIONS OF THE UNIMPREGNATED UTERUS.—Many of the lesions of position of the uterus, relatively to the pelvis and to its contiguous organs, are affections of it common to its several circumstances of vacuity, pregnancy, and puerperal condition. Such for example are all its degrees of prolapsion, and some of the forms of its extra-abdominal protrusions; whilst others are peculiar to particular conditions of the organ, as retroversion to that of pregnancy and to similar states of development from other causes; and inversion almost exclusively to its puerperal state.

The principal malpositions of the uterus in its unimpregnated condition are, its prolapsion, anteversion, and extra-abdominal protrusion. Of all these, prolapsion is beyond comparison the more frequent variety. Most practical writers in this country have distributed the several forms of prolapsion of the uterus under the three subordinate heads of descent, prolapsion, and procidentia; whilst in France, and other countries on the continent, an analogous distribution of the same subject has prevailed under the corresponding designations of relaxation, descent or semiprolapsion, and precipitation. To express these three several stages of subsidence of the uterus, the author prefers for his own use the distinctive terms of DELAPSION, to signify the first stage or that of simple bearing of the womb upon an inferior portion of the vagina; PROLAPSION, to indicate the second stage, or that of the engagement of the same part of the uterus within the vaginal orifice; and PROCIDENTIA, to express the third and last stage, namely, the protrusion of the entire uterus out of the pelvic cavity,

carrying along with it, of course in an inverted state, either a part or the whole of the vagina. Inasmuch as morbid subsidence of the womb from its proper relative situation in the pelvis, in all the degrees of it now enumerated, is an affection of that important organ as much during pregnancy as during the absence of that state, and as the pathology and treatment are also nearly the same in both cases, it seems convenient that we should discuss the whole of the subject under the present article, with the exception only of cases of procidentia uteri at advanced periods of gestation, or in actual complication with the puerperal state.

OF DELAPSION, OR FIRST DEGREE OF MORBID DESCENT OF THE UTERUS.—The reader is, no doubt, aware that the unimpregnated uterus is usually suspended within the pelvis at a given average level relatively to the height and depth of that cavity. In cases of delapsion it sinks perceptibly below that level; the amount of the descent, of course, varying in different cases, but seldom supposed to exceed a range of two inches and a half, nor deemed sufficient to produce any material change in the direction of its longitudinal axis. In its natural position the vaginal portion of it is so situated that its projecting extremity can scarcely come in contact, or at all events that it cannot come into painful collision, with the parietes of the vaginal passage: whereas upon losing its proper level in the pelvis, such a collision is an early and an inevitable consequence. The other more immediate effects of the delapsion in question are a puckering and relaxation of the upper part of the vagina, a close investiture of the sinking uterus by its middle and inferior portions, a sense of inconvenience and irritation of the surfaces thus teased and incommoded, and a shortening of the entire vaginal tube directly proportioned to the amount of the actual dislodgement of the uterus from its natural position within the pelvis. The more remote effects are a leucorrhœal discharge from excessive excitement of the muciparous glands of the vagina, impeded or painful micturition from pressure of the delapsed uterus upon the neck of the bladder, and sometimes tenesmus from a similar pressure on the part of the same organ upon the rectum.

Prolapsion, or the second degree of the lesion of position of the uterus, is that in which the vaginal portion of it may be seen to project through the os externum, and to make its appearance within or even beyond the level of the labia majora pudendi. The womb in this case occupies the inferior part of the cavity and an anterior portion of the outlet of the pelvis; and its body is almost every where invested by a double covering of vaginal structure; viz. first by the superior portion of it, with the extremity of which it is immediately adherent, and which it therefore cannot fail to take along with it, reflected and inverted towards the outlet of the pelvis; and secondly, by so much of its middle and inferior portions as may remain unreflected, and continue to retain their accustomed relations to the parietes of the pelvis at and near its outlet, and to the tissues naturally connected with the lower part of the pelvic cavity. The uterus, when thus prolapsed, is obviously forced to assume an identity of axis with that

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Fig. 2.



Fig. 1.



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of the inferior aperture of the pelvis. The body of the uterus is felt to produce a painful sense of pressure, as from a bulky body, on the parts about the perineum and recto-vaginal septum, and anteriorly on the neck of the bladder and the urethra, accompanied as in the former case, but usually more intensely, with painful micturition and tenesmus. In this form of her disorder, the patient moreover complains of dragging pains at the groins, and of dull aching pains about the small of the back and of the sacral and vesical regions of the pelvis, and even sometimes of the loins and upper parts of the thighs; the former no doubt in consequence of the several sets of ligaments and membranous fastenings of the uterus being put violently upon the stretch, and the latter probably on account of the pressure which the sacral nerves are especially liable to have to sustain from some of the severer forms of prolapsion of the womb. As long, during the presence of this state of things, as the patient may choose to confine herself to a strictly horizontal position, she for the most part experiences much mitigation, and in many cases almost absolute suspension of her sufferings. The surfaces about the vulva are usually considerably inflamed, and often much suffused with a muco-purulent fluid.

The third and last stage of malposition of the uterus by simple descent, is what we call its *PROCIDENTIA*, or entire protrusion out of the pelvic cavity. In this form of the malady the vagina is more or less perfectly inverted, hanging pendulous between the thighs, furnishing a covering, and IN THIS CASE only a single covering, to the greater part of the prolapsed uterus, and also occasionally to its lateral appendages, and even sometimes to retroverted portions of the bladder and to extensive convolutions of intestines. A moderate amount of this variety of prolapsed uterus may be seen exceedingly well represented in the second figure of our pl. x., the first figure in the same plate being a representation of a very extensive prolapsion and inversion of the vagina unaccompanied by any *VISIBLE* protrusion of the uterus. A case of *procidentia uteri*, complicated with inversion and protrusion of the whole of the vagina and prolapsion into the tumour so formed of the greatest part of the bladder, a large tract of intestine, including nearly the whole of the ileum and about four inches of the rectum, is represented in figure 3, pl. x. B. The case was that of an old female, upwards of seventy years of age, who had been the subject of *procidentia uteri* for many years. For about ten years she stated that she had worn a pessary, of which however; by reason of its having from time to time greatly annoyed her, she had, during the last fifteen years of her life, entirely declined the use. When the author was first consulted in her case, she was little better than moribund, and she died on the following day. On inspection of the body, the outside of the tumour presented the appearance of a thick brownish integument, which seemed sound and firm, excepting at two places, as indicated at d and e, where superficial ulcers had recently formed; the consequence probably of diminished attention to cleanliness. On cutting carefully open the investing vaginal tissue of the tumour, the retroverted bladder, con-

taining about ten ounces of urine, came into view. Beyond and below the bladder were the uterus and its appendages closely packed together, and at many points mutually cohering, as if from the effects of a former inflammation; for at that time they were devoid of all appearance of inflammation. Superincumbent on the parts already named were the prolapsed portions of the ileum and rectum, both of which were exceedingly inflamed and partially gangrened. On removing some convolutions of intestines which prolapsed into the pelvis, the lateral and posterior surfaces of that cavity, the latter more especially, presented a very curious appearance. It was that, as was conjectured, of having been broken at some antecedent period by innumerable lacerations of their proper peritoneal covering, and afterwards attempted to be healed by very rude efforts of the processes of ulceration and cicatrization. The most depending part of the cavity, which in the horizontal position of the subject seemed pretty accurately to correspond with the middle of the hollow of the sacrum, was at first concealed from the operator's view by an accumulation of about two ounces of an offensive dark grayish-coloured purulent fluid, on the removal of which the same irregularity of the surface presented itself, as had been previously exhibited by the immediately adjoining surfaces already described not so concealed by the effused fluid.

OF THE CAUSES OF DELAPSION, AND, SUBSEQUENTLY, OF THE OTHER FORMS OF DESCENT OF THE WOMB.—The proximate cause, as it appears to the author, can scarcely be any other than a reduced power, by whatever previous cause produced, of the suspensory ligaments of the uterus, not necessarily unaccompanied by a state of relaxation of the vaginal parietes. In the opinion of some writers, the latter circumstance should be deemed of itself a sufficient proximate cause of prolapsion of the uterus. But is such a doctrine entitled to the praise even of verisimilitude? An organ susceptible of development to an almost indefinite extent, as the vagina is, can scarcely have been intended to maintain a degree of contract-
edness sufficient to enable it to sustain the uterus in any given position. Add to this consideration the fact, that the vagina is actually most ample where the hypothesis now questioned requires it should be most contracted: and there is yet another important circumstance to be taken into the account, viz. that the vaginal passage, in more than one class of adult subjects, is never devoid of an amplitude which, in the author's opinion, must render it totally incompetent to sustain the office allotted to it by this very unsatisfactory hypothesis; of which the principle is, indeed, no other than that of the cup and ball; without, however, the advantage of being supported by the slightest shadow of analogy between the solidity and absolute power of resistance of the cup in the one case, and the natural tonicity and tendency to contraction of those of the vagina, such as they are, in the other. Prolapsion of the uterus is, therefore, much more probably and frequently the effect of relaxation, or of rupture, or of diminished power under

some form or other, of its proper suspensory ligaments, than of any supposed state of relaxation of the vagina. From the relative positions of the several sets of uterine ligaments, and from the nature of their tissues and their modes of insertion to given parts of the pelvis, or to structures immediately attaching or contiguous to it, it seems most obvious that they are principally, if not exclusively, intended to give a fixed locality to that organ in its unimpregnated state, subject only to such inconsiderable changes in the direction of its long axis as are imposed upon it by the ever-changing conditions, in respect to vacuity and plenitude, of its adjoining viscera. Auxiliary to the direct services here presumed of the uterine ligaments, as suspensory of that organ at a given average level within the pelvic cavity, is another remarkable method, already known to the reader, which nature has adopted to ensure something of fixedness of locality to the uterus, within a given range of latitude, if we may borrow the use of that term, relatively to the ordinary amount of space in the same cavity; viz. that of having included at least three-fourths of the entire organ within an investiture of peritoneum, the duplicature of the peritoneum so employed being a production of the peritoneal lining of the greater part of the interior of the pelvis, to which it is itself a STRONGLY ADHERENT FIXTURE. See our foregoing articles on the SITUATION and LIGAMENTS of the uterus, p. 204 and 217. Again, the inferior part or neck of the uterus is intimately attached to a corresponding inferior portion of the bladder; of which another corresponding portion of the anterior walling is equally strongly attached to the ossa pubis, partly and directly by cellular membrane, and partly indirectly by a flexure of the peritoneum, propagated from the superior and posterior surfaces of the ossa pubis, to an anterior and somewhat inferior portion of the bladder. Moreover, we may pretty certainly arrive at the same conclusion, if we consider somewhat pathologically the actual condition of the several ligamentous and membranous suspensors of the uterus just enumerated, in connexion with, and subsequently to, a lengthened duration of some of the more formidable varieties of descent of the uterus. In the greater number of such cases, they are found so elongated and enfeebled by excessive extension of their fibres; in all cases of advanced procidentia, for example, the posterior ligaments of the uterus described in p. 219, and very faithfully represented in pl. xiii. fig. 2, at n n, must inevitably suffer rupture. The anterior ligaments may be supposed to escape this result; but by being hurried along with the uterus and the bladder into the vaginal extra-abdominal tumour, they are rendered totally useless as suspensors of the former organ, and most probably deprived of all capacity ever in future to sustain that office. Again, in some of the worst forms of the lesion of position of almost all the contents of the pelvis, as now supposed, the intermediate cellular tissue, by which the neck and part of the shoulder of the bladder are fastened to the symphysis of the pubis, must evidently sustain an irreducible separation from its proper surface of attachment. What, again, under the same circumstances, must be presumed to be the condition of the round ligaments? Why,

they must not only be elongated and enfeebled past all chance of recovery of their natural tone and strength, but, in many cases, actually torn in sunder. This latter fact is very well illustrated by the usual result consequent upon the accidental rupture of only one of these ligaments. The well-known effect of such accidents is a delapsion of the uterus, principally, if not exclusively, on one side, so that its orifice is found determined to one side of the pelvis, and its fundus verging obliquely towards the other.

If, moreover, we advert to the circumstances which we may know or presume to predispose to these lesions of position of the uterus, we are inevitably borne to the same conclusion as to the nature of their principal, although not only proximate cause. The predisponent causes which we can suppose most to conduce to these results upon the application of adequate occasional causes are, an original slenderness and delicacy of conformation of the ligamentous and membranous tissues, on which nature has devolved the office of suspensors of the uterus; feebleness of tone of the same tissues, coincident with feeble general health and delicacy of constitution from whatever cause; and the reduced functional power to which they are especially liable during the puerperal state, in consequence of the prodigious elongation and other constituent changes which they have to sustain during the latter months of gestation. That great delicacy and slenderness of the uterine ligaments may be presumed, in some cases, to be the result of original conformation, we may infer from the fact, that virgin subjects, and even very young children, have not always escaped the miseries incident to prolapsions of their uteri. A well-marked case of this description occurred some years ago in the practice of the author. The subject was a lady's-maid, of about nineteen years of age, and of a somewhat delicate health and constitution. Her mistress, perceiving her indisposition, which was accompanied with great depression of spirits, induced her, after much persuasion, to take the opinion of her own physician upon it. She complained of a sense of great bearing down at the outlet of the pelvis, together with a protrusion of a fleshy body at the vulva, which an old midwife in her neighbourhood had told her must be a polypus. It was principally this information that had occasioned the extreme depression of spirits, which had been considered so essential a feature of her case. Upon a proper examination being made of the body presenting at the vulva, the patient being put into a reclining position, or rather into that of half-sitting and half-standing, against the bottom of her mistress's bed, it was easily ascertained to be a prolapsion of the uterus, the transverse orifice of that organ, together with about half of its vaginal portion, protruding distinctly through a circular and well-defined aperture in the hymen; that membrane having never sustained a rupture of any part of its tissue. The patient was the daughter of one of her master's tenants in the country, and had been very carefully and virtuously brought up. When she left the country she was in good health; but when she came to London her catamenia became suppressed, and remained

suspended for many months subsequently. At length, however, that function was gradually re-established, but ever afterwards its periods were exceedingly tedious and painful. On these occasions the patient was often, to adopt her own expression, necessitated to make use of very strong bearing-down efforts. Added to this state of things, the important fact, that she had been subject, during the whole of her residence in London, to a most obstinate constipation of the bowels, for the emptying of which she acknowledged that she had often made use of the most strenuous propellent efforts. It was, indeed, on one of these occasions, she further stated, that she first felt any remarkable pressure upon the parts forming the orifice of the vagina.

The reader will find recorded in the third volume, p. 282, of the *Edinburgh Medical Essays*, a case of *inversio uteri* in a child of only three years of age. She was seized with a fever in the month of August, 1728, when she sustained a discharge of blood from the vagina for three days; “after which she seemed to be in perfectly good health for about twenty days, when again she complained of pains in her belly, loins, and thighs, which were followed by another similar evacuation. The quantity of blood voided was judged by her mother to be as large as what she herself commonly had in her menses. The child suffered regularly such returns every three weeks, or at furthest within the month, attended by the same symptoms, without any considerable loss of strength or decay of her body till the month of May, 1729. But during the third monthly evacuation, which was at the end of September, 1728, her mother observed a small swelling rising out from the orifice of the vagina, which disappeared as soon as the hæmorrhage ceased. This tumour, however, came out in larger bulk at each period thereafter; but upon the child being kept in bed three or four days, and the flux of blood stopping, it always disappeared till the month of May, when it presented itself in a considerable bulk, and did not return as usual. From this time there were no more periodical evacuations of blood: but instead of these there was a perpetual dropping of a white mucus from an aperture in the lower part of the tumour; which mucus was sometimes discharged in such large quantities, that if a swath had been applied some hours about it to prevent the mucous flux from coming away in drops, as frequently was done whenever the swath was taken off, the mucus was thrown out so abundantly, and with such force, as made those present to imagine it was urine which the child passed. About the end of July the parents took their little girl to the hall of the College of Physicians, where Dr. John Riddel and Dr. William Porterfield were then attending to give advice to the poor; from whence they were advised by those two gentlemen to carry her to me. Being informed of the preceding history by the child’s mother, I examined the parts, and found a tumour hanging out of the vagina as large as a hand-ball, the neck of which was about an inch in diameter. The tumour was largest at its lowest part, where also it was of a faint leaden colour. Behind the most prominent part of it I discovered an aperture of

one-fourth of an inch in diameter, by which I introduced a probe some inches; when it encountered resistance, and the child complained of pain. From this aperture there was a constant stillicidium of mucus. Immediately round the orifice the tumour felt hard and firm; but a little higher up where it was largest, it was softer, seeming to be composed of a cellular substance. At this place scales had frequently formed and fallen off. The neck of the tumour was very smooth, of a shining red colour, and very solid and hard. I introduced a probe betwixt this neck and the sides of the vagina two inches upwards, and turned it all round the circumference of the neck. The clitoris, nymphæ, and orifice of the urethra were of natural conformation: but the neck of the tumour, by pressing on the urethra, occasioned some difficulty in the excretion of urine; and the urine being diffused over the labia magna and other neighbouring parts, by striking against the large base of the tumour, had somewhat excoriated these parts. The child could scarcely sit, and straddled when she walked; but when lying in bed she was very easy. Her complexion was small and her person small; but in other respects she was healthy. Having consulted with the two gentlemen who had sent her to me, and several other physicians having seen her, the disease was unanimously judged to be a *PROCIDENTIA UTERI*; wherefore I attempted to reduce it. The tumour was however so large and firm that I was unable to accomplish that object. Fomentations and cataplasms, first of the emollient and discutient kind, were ordered to be applied; afterwards they were formed entirely of attenuants; and lastly, astringents were tried. In the mean time the child underwent the general evacuations, as much as her strength could bear, without the tumour's yielding in the least, but on the contrary daily increasing. At last she began to turn hectic, and the tumour to be disposed to gangrene on its outer surface; which were in vain endeavoured to be prevented by diet and antiseptic medicines. I several times considered of the propriety of amputation. But on reflecting that in that case the actual substance of the uterus would be to be cut through, and aware of the ill success of Ruysch and some others in the performance of that operation, I had not courage enough to undertake it. The child in the mean time became weaker; the tumour gangrened on its external surface; and by the falling off of the gangrened part, it was reduced to nearly half its former bulk. Ten days after this result, viz. on the 7th of November, the patient died. On opening the abdomen the day following, the bladder was found full of urine. The left ureter was in a natural state; but the right one was distended to four times its natural diameter; whilst the kidney from which it came was also larger, softer, and paler than the other, but without that appearance of the morbid folliculi or vesicles sometimes to be met with in diseased kidneys. The urine had certainly been retained in the bladder by the neck of the preternatural procidentia pressing on the urethra; whilst the distension of the right ureter was owing to a steatomatous body, somewhat more than an inch long and seven-tenths of an inch broad, which lay behind the ovarium and ligamentum latum, and reached

to the cervix of the bladder, to which it adhered. The ureter passed through its exterior extremity." Contributed by Dr. Alexander Monro, Professor of Anatomy in the University of Edinburgh.

Several cases of procidentia uteri are noticed by Mauriceau in very young and unimpregnated subjects. *Observations sur les Accouchemens, etc. tom. ii. obs. xcvi. p. 70.*

M. Saviard, in his *Surgery*, cites several very interesting cases, of which the following may be considered as having an obvious bearing on the point of pathology now discussing: "A girl, aged twenty-five, had been troubled with a descent of the uterus, without being once reduced, for twelve years. The tumour thus formed was of the size of a melon. She was bled and purged, and the part was fomented. Then I applied myself to the reduction of the tumour, in which I found abundance of difficulty. At first I endeavoured to reduce it by myself; but not succeeding, I desired the assistance of another surgeon, who was very useful on this occasion; for, not being able to retain what I had thrust back with both my hands, his and mine alternately supported what was reduced till the reduction was absolutely completed. But, as she complained of a difficulty in making water after the operation more than she had done before, I thought proper to sound her, and found that there was a stone in the bladder. This stone, which was afterwards extracted, was very large: whence we may conclude that she had been troubled with it a long time, and that this extraneous body might have been the cause of the descent of the womb. Be that as it may, she perfectly recovered of both diseases, wearing a steel pessary however, such as I have described before." Saviard's *Observations on Surgery*, p. 43. It is worthy of remark, that the same able writer, in his case of Marguerite Malaure, takes occasion to state, that he had been obliged to have recourse to the use of pessaries in several other cases, both of very young and unmarried subjects, and of women of more advanced age, but devoted to the obligations of a religious celibacy. De Graaf, see Mad. Boivin and Dr. Duges' work already referred to, tom. i. p. 86, speaks of four young subjects whose virginity could not be considered equivocal, whom he had treated for prolapsus uteri by astringents and the use of pessaries.

The author thinks it quite unnecessary to go into any detailed consideration of the hypothesis of Dr. Van Paddenburg, as published by a Society of Surgeons at Utrecht, 1767; which maintains the principal proximate causes of descent of the uterus to be relaxation of the sacro-ischiatic ligaments, and that of the constrictores muscles of the orifice of the vagina. The sacro-ischiatic ligaments are not, in the author's opinion, of a nature to become the subjects of so much relaxation as could answer the purpose of this hypothesis; whereas the first degree of descent of the womb may take place without its reaching, or at least without its impinging painfully upon the contracted outlet of the vagina. *Comment. de Rebus in Scient. etc. Supplement. 2, dec. ii. 1773. Lipsiæ, vol. ii. p. 372.*

OF THE OCCASIONAL CAUSES OF DESCENT OF THE UTERUS.—Descent of the womb of the first degree has been designated by some French writers by the very term *RELAXATION*, without reference however to any tissue or part to which the term when so used might be supposed to apply. It is known that, in nine cases out of ten, prolapsion of the uterus is an early consequence of the events of parturition, and that it first exhibits itself under certain well-ascertained circumstances of the puerperal state; which circumstances have been observed to be, either getting up, and resumption on the part of the patient of her usual exercises and occupations, at an unreasonably early period after her delivery, or a less early resumption of those duties in a delicate or feeble state of health. The mere tyro in the anatomy of gestation must know what prodigious elongation the lateral ligaments, and indeed all the proper ligaments of the uterus, have to undergo during the latter weeks and months of pregnancy. Essential to the success of this process would appear to be an increased succulency and vascularity of their tissues; or, in other words, a reduction of the natural density and firmness of their texture. But during their state of extension and succulency as here supposed, they must obviously sustain a corresponding diminution of their special power as suspensors of the uterus; whilst indeed during the latter months of gestation, that power can only very slightly be called into action; the uterus at that period being chiefly indebted for its support to the incumbency of its lateral and inferior parietes upon the brim and expanded iliac surfaces of the pelvis. No sooner however is the great business of parturition accomplished, than the uterus contracts and is reduced to a volume sufficiently inconsiderable to admit of its sinking into the pelvic cavity, provided the patient were to place herself in a position calculated to favour that result. During the first days and weeks subsequently to delivery, the same process of contraction both of the uterus and its appendages, especially its ligaments, is continued; but it is not considered as completed until after the lapse of about seven weeks from the date of the delivery. If during the currency of the earlier part of that period, and indeed during that of any part of it in a case of peculiar delicacy of constitution, the patient should be induced to sit up many hours a day, to stand for any length of time, to walk up and down stairs, or to occupy herself in pursuits especially calculated to favour an accident of that kind, she would certainly expose herself to a very great risk of becoming a subject of a descent of the womb. And what is the explanation? Why, obviously, that nature requires a part or the whole of that period to restore the uterus to its usual size in the absence of pregnancy, and the suspensory ligaments to their natural tone, dimensions, and suspending powers. It might appear like a work of supererogation to attempt to illustrate a point of doctrine so well founded as this is on acknowledged facts of puerperal pathology by a reference to recorded examples; but the subject matter of the doctrine is so important and practical, that the author is unwilling to neglect the opportunity of impressing the minds of the younger part of his readers with a firm conviction of its truth.

“ A woman, aged twenty-one, of a delicate habit of body, was delivered of her first child after a labour of thirty-six hours. In a short time after the birth of the child, a hæmorrhage supervened from a partial detachment of the placenta; which being replaced by the introduction of the hand, the hæmorrhage immediately stopped. The weakness occasioned by the above loss of blood kept the patient at home during an entire month; in which time she got quite well. This took place in April, 1792. On the 20th of May, 1794, she was again taken in labour. It was advised that care should be taken not to hasten the labour, for fear of a return of her former misfortune; but the advice proved of little value, inasmuch as the labour was accomplished in about eleven hours. A more considerable hæmorrhage followed than on the former occasion. Cold water was thrown on the abdomen without effect, and the hand was introduced into the uterus to bring away the placenta, which was two-thirds detached, and of which the remainder was found attached to the left side of the womb. Faintness succeeded, and the hand was introduced to produce contraction; which accomplished the object. The patient, however, remained for some time in a very weak state. The medical attendant having retired, she was soon afterwards removed into an arm-chair, in order to have her bed made. This produced the worst of consequences: for when he was called upon in a great hurry to visit her again, he found her apparently in a dying state, and without a pulse; the blood having escaped from her in streams upon the floor. Still it was thought that she would eventually recover; no apprehension being entertained of a formidable incident in her case, which was soon to follow. On the twelfth day after her delivery, while she was seated on a chamber utensil, and making use of great force to empty the rectum, a complete prolapsion of the womb took place. When the author arrived, which was very soon after the occurrence of the accident, he found the whole uterus on the outside of the vagina, forming a long tumour of about the size of a new-born child's head. M. Baudelocque was now called into consultation, and the prolapsed uterus was reduced by that gentleman with tolerable ease.” Contributed by M. Ani, of Paris, *Recueil Periodique de la Société de Santé*, tom. ii. p. 26, 1797. “ A young lady, twenty-eight years of age, who resided in a manufacturing town in France, was delivered of her first child without experiencing the least difficulty. She also suckled her infant with the appearance of so much success, that she longed to resume her accustomed duties in the counting-house; which, in fact, she did resume on the twelfth day after her delivery. Subsequently to that time she felt a sense of weight and of something protruding at the external genitals. She complained of it to the gentleman who had attended her in her confinement; who however, without taking the proper measures to inform himself correctly of the nature of her case, only made such remarks as seemed calculated to tranquillize her mind. But her case became more and more troublesome. The womb prolapsed almost entirely out of the vagina; especially, being very constipated at the time, when she made strong efforts to

relieve herself of the contents of her rectum. During the day, she supported the prolapsing tumour by means of a napkin worn in the same manner as she had been accustomed to do during her menstrual periods. At night, if once reduced, the organ remained within the vagina. Nine months were thus suffered to elapse without any material change; the patient not having sufficient courage to mention her case to her husband. When her anxiety at length compelled her to make the painful avowal, her husband accompanied her forthwith to Paris, to consult M. Duméril, who desired her also to call upon me. The uterus was in advanced protrusion out of the vagina. Its neck, of the diameter of from fourteen to fifteen lines, was of a deep-red colour. Its orifice, which was widely open, gave issue to a whitish purulent fluid in great abundance. I effected the reduction of the tumour with much facility, and afterwards kept it in its place with a round pessary of elastic gum, so applied as to allow the os tincae to rest over the aperture in the pessary." *Traité Pratique des Maladies de l'Uterus et de ses Annexes* M^{me}. Boivin et M. A. Dugès, tom. i. p. 109.

A young married lady, of a sanguineous temperament, buoyant spirits, and disposed to indulge in too unreserved a confidence in the strength of her constitution, took a walk of not less than two miles on the fourteenth day after being delivered of her third child; her two previous confinements having been remarkably prosperous. Before she quite got home she was seized with an intense pain of the hypogastrium, and was obliged to avail herself of the hospitality of a friend's house; where she was put to bed, pale, fainting, and still suffering the severest agony. On the arrival of her medical attendant she had in some degree recovered her colour, and was comparatively free from pain; but stated that she was sustaining a considerable sanguineous discharge from the vagina. In about an hour afterwards she was taken to her own house, when she felt herself so much better, that, with the exception of the discharge, which by this time had soaked several napkins, she considered herself quite well. Very contrary, however, to her own inclination, she was obliged to go to bed, to be treated for a few days longer as a puerperal patient. In the course of the same night, whilst seated on a chamber chair, and making considerable efforts, she felt a sense of something heavy and bulky bearing painfully upon the parts about the outlet of the pelvis, which was quite new to her; and before she had accomplished the object for which she got out of bed, she was again seized with the same intense pain of the hypogastrium as that by which she had been so suddenly attacked on the previous day; which was, moreover, accompanied by a fresh and more copious discharge of blood. Early the next morning the author was requested to meet in consultation the ordinary medical attendant of the family. On resuming the horizontal position the pain of the hypogastrium had greatly abated, and the patient was again beginning to recover her spirits and her courage. After placing her in a half-sitting and half-lying position, with her lower extremities retracted, and her back supported by a pile of pillows, she was made

the subject of a careful vaginal examination. The inferior part of the uterus was felt to present itself at the external orifice, painful to the touch, much larger than in the ordinary condition of the organ in the absence of pregnancy, and suffused with blood. On her resuming the horizontal position, the tumour was ascertained to have receded. The vagina itself was found to be of the usual dimensions. After emptying the rectum by an active saline and demulcent enema, the bladder also having been relieved of its contents by a catheter, precautions were adopted to supersede the necessity of again exposing the patient to a position of her person, which might have the effect of causing a return of her former sufferings. A soft sponge pessary was introduced into the vagina, which gave great relief, and enabled her afterwards to get out of bed, and to respond to her natural calls, without the slightest inconvenience. To make short of the account, this very imprudent young lady was obliged to wear a succession of pessaries for upwards of two years afterwards, when she had arrived at the seventh month of her fourth gestation. By a skilful management of her case during her subsequent confinement by her ordinary medical attendant, the uterus was permanently reinstated in its natural situation.

In a case of an unusually large abscess, which formed between the peritoneum and abdominal muscles, and of which an interesting account was published by Mr. Kite, in the 2nd vol. p. 46, of the Medical Communications, it is more than intimated that the mischief had been chiefly indebted, for its occasional cause, to a prolapsion of the uterus, which had first appeared after a quick labour in 1772. The report of the case is dated in 1784.

Saviard, in his work on Surgery, in describing the case of one of his female patients, see obs. xiii., notices the fact that she had been subjected to a slight prolapsion of the uterus EVER SINCE HER FIRST LYING IN.

Added to the other influences of mismanagement of the puerperal state which we find reported in books, as so many causes of prolapsion of the uterus, we meet with many examples of violent proceedings on the part of midwives as having been productive of that effect. A woman twenty-eight years of age, after being attacked with a malignant fever, experienced a complete procidentia of the uterus. After a tedious use of fomentations to the prolapsing tumour, and various sorts of cataplasms to the chest, and to the sacrum, etc., of which the materials, for the most part herbaceous and demulcent, are enumerated with great parade, the reporter of the case proceeds to state that he eventually succeeded in accomplishing the reduction of the protruded uterus, and that that result was so prosperous in the issue, that in the following year his patient "brought forth a strong living child, AFTER WHICH THE UTERUS CONTINUED IN ITS PLACE." Joh. Adam. Gensel, M.D., in *Actis Eruditorum*. Lipsiæ, 1716, p. 224.

"Anna K., of the village of Schwamendingen, æt. 34, in the eleventh week after a puerperal confinement, complained of heat of her head and face, thirst, loss of appetite, etc., and also of prolapsion of the uterus; which had been pro-

ded, as she represented, by violent efforts made by her midwife to extract the placenta, which subjected her to a great deal of pain and heat. By my advice she used a bath of traumatic herbs for three weeks; and by the application of a pessary she was completely cured." D. Joh. de Muralto. *Ephemerid. Germanic. dec. an. 1*, p. 278. Norimb. 1682.

"In the year 1681, D. D. Richter, M.D., dissected, in my presence, the body of a young woman, the wife of Andrew Thielens, who had been cruelly treated by her midwife. The patient was in labour of her first child at the time of the accident. Her ignorant attendant, rashly suspecting that there was a second child, pulled violently at the uterus, by which she completely inverted it, and caused her patient's death." D. Christ. Seliger. in *Ephemerid. Germanic. dec. ii. an. 1*, p. 344. Norimb. 1682.

"About the year 1741, a married woman was delivered of her first child when she was in the twentieth year of her age. The midwife, who was none of the most humane of her profession, pulled very hard in bringing away the placenta; upon which the woman heard a particular noise, and thought that she felt something break within her. She complained that she was injured; but the midwife answered in a surly manner, that she knew her business, and had done no harm. A pain and weakness continued in that side; but she was not sensible of all the injury which had been done to her until she got up and began to walk across the room. The uterus then fell down as large as the fist of a man of ordinary size when clinched. It was covered with the vagina reversed, which came down with it, resembling a bag. After this first prolapsus, the patient went immediately to bed and put all up very easily. It continued so till the next time she attempted to walk, when again it dropped down as before. She took no medical advice on this occasion: but by the persuasion of some good old woman of her acquaintance, bandages were applied, with a view of keeping it up, but without effect. It always dropped down when she stood erect; and the bandages galled and fretted it so much, that she threw them all away. It continued regularly to hang down all the day, and was put up every night, in which situation it remained till she got up next morning. Her health was in no degree impaired by this affection; and she felt no other inconvenience from it than what arose from its bulk. She suckled her child for about eighteen months; and, in a short time after it was weaned, the catamenia appeared as usual. She then observed that the menstrual blood was discharged entirely from the nipple, as she called the orifice of the womb, and that not a drop of it came from any other source. Sometimes the blood came away by single drops, and very slowly; whilst, at other times, it flowed so fast that she was obliged to keep within doors; and in general her menstrual evacuation was in great quantity. After some time she became pregnant again; and her prolapsion proved a great source of trouble to her during the whole of her gestation; the uterus still hanging down all the day and being put up at night. At length, however, it grew so large that it could not get down. Then it lay as a heavy

load on the os pubis and neighbouring bones till some time in the seventh month, when she was delivered. She nursed this child also; and it lived till it was four years old. During the time that she gave suck, and after the child was weaned, the circumstances with respect to the prolapsus were in every particular the same as formerly; with this difference only, that the orifice of the womb now hung somewhat lower. In the course of three years subsequently to this period, she conceived three times; but she carried none of her children beyond three months. This she herself attributed to her being of a very passionate temper. An abortion in all the cases ensued on her being much provoked. After every miscarriage the orifice of the uterus hung further down than formerly. These frequent miscarriages were succeeded by a fluor albus, which continued for six or seven years. During all this time she uniformly observed that when she menstruated, the discharge was from the orifice of the uterus; while, on the other hand, the whites came exclusively from THE BAG; which last was so wet that she was obliged to have it constantly covered with cloths. While in this situation, she was affected with so severe a colic that she could not put it up. This obliged her to acquaint me with the whole affair. The colic and swelling were soon removed; but I did not propose to do any thing for the other complaints, which continued in the situation above described till the year 1761, when she was attacked with a severe intermittent. She was then between forty and fifty years of age. After the ague was removed, her menses did not return: the prolapsus, however, continued as formerly, with this remarkable difference, that the os tincæ or nipple coalesced, and was skinned over. The fluor albus also went off; and she has now no trouble from the pendulous uterus but its bulk, to which she has been accustomed for thirty-three years. For these last ten or twelve years she has not taken the trouble to put it up. It swells sometimes to a great size from cold or hard labour: at other times, it shrinks up like a corrugated scrotum, to which it bears a very great resemblance; as from being long exposed to the open air, it is now dry and of the same colour with the rest of the skin. I imagined that after having been so long down, and after having assumed the appearance just mentioned, it could not be put up again; but in this I was mistaken. She was still able to reduce it with the utmost ease; but it came down again as soon as the pressure was removed. The bulk of this tumour never obstructed the urethra; as it was entirely below that passage. She still continues in good health, and goes about so briskly that few people know she has any disorder." Communicated by Mr. James Hill, Surgeon, at Dumfries, Med. and Philos. Comment. vol. iv. p. 88.

Next in frequency to the cases above referred to as examples of descents of the womb consequent upon mismanaged labours and neglect of proper precautions in the puerperal state, are prolapsions and protrusions of the uterus during gestation, imputable to the greater weight of the womb in that state; but generally requiring the concurrence of a previously reduced tone of the

suspensory ligaments from many former gestations, labours, and abortions. From the increased bulk and weight of the uterus at that time most women become, in a slight degree, the subjects of descents of it during the earlier months of gestation.

But when the organ, during the progress of its development, effects its ascent into the abdominal cavity, it acquires a security of situation above the brim of the inferior pelvis, in consequence of which it cannot readily prolapse. In ordinary cases, and in healthy subjects, and still more especially in first gestations, such is the entire amount of descent to which the gravid womb is subject. But far otherwise is the case with women whose general health and constitutional strength have been broken down by frequent and numerous-repeated gestations. Of women, who become the subjects of severe and protracted prolapsion of the womb in their first pregnancies, there are scarcely any recorded examples; excepting, indeed, from the concurrent influence of some other obvious occasional cause; as in the following case, published by Desgranges. "A young lady, aged nineteen, when she was gone three months in her first gestation, became the subject of prolapsion of the uterus, in consequence of a fall which only brought her down on her knees. The pregnancy went on, and had the effect, for a time, of relieving the mal-position of the uterus. But after the patient's delivery the womb prolapsed again. She was more or less harassed with this local affection for six years, when the author was consulted in the case. Upon examination, M. Desgranges found a prolapsion of the uterus; that organ, indeed, protruding at the external parts, complicated with an unusual elongation of its anterior lip. This enlargement, which was of a roundish form, and smooth, having some resemblance to a glass pestle, was, in the author's opinion, of the same structure with the uterus itself. It was without pain, and without sensibility. It was, however, attended by one very important inconvenience, viz. that it prevented the proper adjustment of a pessary, which, on this account, could not be worn. After enumerating a variety of pessaries recommended by authors, most of which were tried in vain in this case, the writer suggested a kind of ring pessary, made in such a way as to have two floors, the one having an ascent to the other, the anterior one lower than the posterior by a depth equal to the length of the carneous column, protruding, as already described, beyond its proper local relation to the posterior lip of the uterine orifice." Communicated by M. Desgranges, graduate of the Royal College of Surgery at Lyons. *Journal de Médecine*, &c. tom. lix. p. 343.

For cases in illustration of the influence of gestation in producing prolapsion of the uterus in cases of predisposition to such descents, occasioned by pregnancies, labours, and miscarriages, the author begs to refer to the private notes and recollections of all his more experienced readers.

If comparatively slight accidents are competent to produce permanent mal-position of the womb, as was the case in the narrative just quoted, what might we not expect as results of severer shocks, heavier falls, and of greater violence,

and at the same time applied to subjects more predisposed? But, in the predisposed, even lighter occasional causes of this kind are often sufficient to produce the effect. "A middle-aged woman had a prolapsus uteri. She had formerly been delivered of a child or two at the full time, and afterwards miscarried twice, about the third month of each gestation. She again was pregnant; and at the end of the second month had a small discharge of blood from the vagina. She was blooded, and kept her bed several days, by which the hæmorrhage was restrained. A similar discharge presented itself both in the third and fourth month; at first in large quantity, but the last was very inconsiderable. Being called to her a fortnight after, or about the middle of the fourth month, I found her in violent pain. On examination, I found that the uterus was pushed entirely out of the os externum, bigger than a man's fist. THIS HAD BEEN OCCASIONED BY A VIOLENT FIT OF COUGHING. The vagina felt as if it protruded an inch before the os internum, and was inflamed and swelled. It could not be accurately ascertained whether the patient was pregnant or not. The prolapsus was reduced with some difficulty; and two days afterwards, a round middle-sized pessary was introduced, and fixed up along the back part of the vagina. She had, before this period, a profuse leucorrhœal discharge for three or four months; and the uterus, during the same period, had prolapsed three or four times; but it being then smaller, she could easily reduce it herself. It being uncertain whether she was with child or not, it was resolved to order only a cooling regimen, with saline draughts and nitrous medicines, till the next period. At the end of the fourth month she sustained a sanguineous discharge, very similar to that of menstruation; but being sent for about the middle of the seventh month, I discovered that she then had regular labour pains. The os internum was so much dilated, that the membranes, the water, and the head of the child, could be distinctly felt. There was no discharge of blood. After a suspension of the pains for twenty-four hours, and their subsequent return, the child was speedily born. No violence was used to bring away the secundines," etc. Smellie's Cases in Midwifery, coll. XLIV. case 2. Mauriceau records a case of descent of the uterus, produced partly, as he supposed, by a severe cough; and partly by violent efforts made by the patient to empty the rectum, after an obstinate constipation, of twenty days duration: and another case, in an unmarried woman, aged twenty-three, who became the subject of complete procidentia, in consequence of violent exertion in cleaning a wooden floor. "The womb had entirely fallen without the labia pudendi, to the size of an infant's head, and hung down to the middle of the patient's thighs. At the bottom of this tumour was the internal orifice, very small, through which she regularly discharged her menstrual evacuation." Observations, etc. par Franc. Mauriceau, tom. ii. p. 79 et 251. See also another case of a servant-woman, who had incurred the same accident, or at least a very similar one, being a prolapsion and inversion of the vagina by lifting a heavy weight, which was attended with much pain and inflammation. Ephemerid. Germanic. dec. ii. an. 10, p. 356. Norimb. 1691.

Communicated by D. Joh. M. Hoffmann. "I was sent for," observes M. Levret "to see a poor woman, upwards of sixty years of age, who had sustained a fall in the street, and rather severely bruised her knees. After this accident she was not able to relieve herself of the contents of her bladder; I therefore examined the state of that viscus, and found it full of urine. I attempted to pass up the catheter, but met with resistance in the course of the urethra. Passing my finger into the vagina in order more accurately to direct the course of the sound, I encountered at the very entrance into that passage a substance which resisted my progress. I laid aside my catheter, and separating the labia pudendi, I examined the resisting body, and soon ascertained it to be the uterus presenting at the os externum. I then gradually insinuated my finger round the prolapsing viscus, and could feel that it occupied nearly the whole of the vagina, and that the inferior part of it was much less bulky than the part beyond. I then placed the patient in a more horizontal position than she was in before, and caused her pelvis to be raised somewhat higher than the level of her chest, in order that I might the more easily effect the reduction of the uterus; which was indeed no sooner accomplished than the patient was able naturally to void a great quantity of urine. I then bled her, and ordered her to keep her bed; and afterwards in two days I introduced a catheter into the vagina. In a short time subsequently she was able to apply herself to the ordinary occupations of her station." M. A. Levret, *sur les Polypes*, art. ii. sect. i. obs. 13, p. 113, edit. 3. Paris, 1771.

In April, 1744, M. Hoin was requested to see an unmarried woman, aged forty-six. She complained of having a cylindrical tumour of about ten inches in length by seven in circumference, protruding from between her labia pudendi. It was of about the hardness of a sarcocele. Its anterior surface was sufficiently smooth, and of the colour of the skin when deprived of its epidermis; but posteriorly it was ulcerated over two-thirds of its length, and especially towards either side. A purulent sanies was secreted by those ulcerated surfaces, with which the patient's linen was greatly soiled.

The tumour was somewhat larger immediately under the pubis than at its inferior extremity, where it was terminated by an imperfect spheroid of about an inch in length, which was of a more lively red colour. This part of it was pierced at its extremity by a transverse aperture of about an inch in length. On questioning the patient as to the origin of her complaint, she replied, that about four years before the then date, whilst breaking some ice in a court, her foot slipped in such a way as to oblige her to make a quick lateral movement to escape falling; and that the effort in question had been immediately followed by an acute pain in the hypogastrium: she did not fall down, and she went on with her work. Some time after the accident, however, she felt something protruding at the external genitals; which gradually pushed out beyond the labia pudendi, and had the effect of greatly impeding her walking, and of causing her much dull pain. The patient was ultimately made very comfort

able by wearing a pessary." Communicated by M. Sabatier, *Mémoires de l'Acad. Roy. de Chirurg.* tom. iii. p. 365. It has been already intimated to the reader that certain states of the constitution and of the general health are predisponent to the lesions of position of the uterus under consideration. A case has been referred to in page 533, of an entire procidentia of the uterus, which supervened during convalescence from a malignant fever. Th. Bartholin records a case of procidentia, which in his judgment had for its cause a state of relaxation of the ligaments of the uterus, produced by a great weight and pressure, which they had to sustain from a large collection of hydropic fluid in the abdominal cavity. Th. Barth. *Act. Medic.* vol. ii. p. 139. Hafn. 1675. Mrs. M., a widow lady, of about sixty-five years of age, of indolent and self-indulgent habits, became the subject of chronic hepatitis and ascites. When the author first saw her, the lower extremities were also tensely charged with effused serum. But superadded to these symptoms, there was a recent protrusion of the uterus, forming a tumour of about the size of a new-born infant's head, of which the external covering was the prolapsed and inverted vagina. The vaginal investment could be felt to contain a considerable quantity of fluctuating fluid; which was the case even immediately after the bladder had been discharged of the last drop of its contents, by means of a catheter. The old lady's account was, that she had had a pretty numerous family, that all her labours had been safe and easy; but that whilst weaning one of her younger children for a longer period than she had been accustomed to do, she had felt a bearing down of the womb, for which she consulted the late Dr. Denman. That excellent physician advised her immediately to wean her child, prescribed the use of bark and elixir of vitriol, and it being the summer season, sent her for six weeks to Ramsgate. At the end of a month, however, she returned to her family much improved in her general health, and, as she believed, quite cured of her local complaint: and with respect to the latter, she added, that she had subsequently never felt any thing of it until recently, and after her abdomen had become considerably distended. The tumour was ONCE reduced with some difficulty; and was kept up by means of a large sponge pessary. But in consequence of a great increase of her difficulty of breathing, which the patient thought it had produced, she would not consent to its being put up again. She died in about a month afterwards, overwhelmed with the usual symptoms of universal dropsy. Examination of the body after death was not permitted.

It seems more than probable that prolapsions of the uterus are often results of a complication or of a series of several causes applied in succession; as may be instanced by the following example. "Ann Tongue, a servant-maid, twenty-five years of age, consulted me about a prolapsus uteri, which she had been afflicted with for six years; and, as she imagined, was first occasioned by a FALL IN THE STREET. Although but small in the beginning, yet at the time I was sent for, it was increased to a large size, and had obliged her to leave her

service. She complained of a violent pain all over her abdomen ; which, upon the least motion of the tumour, extended to the throat, and seemed, as she expressed it, as if she drew her bowels with it. She was also troubled with an incontinency of urine and a tenesmus, which, almost upon every motion, occasioned a descent of the anus. She was by this time reduced to a very low state, and obliged to lie in one continued posture. When I viewed the tumour I found it was a real prolapsus uteri, and not merely an inversion with descent of the vagina ; although this latter complaint has often borne the name of the former. The bottom of it hung seven or eight inches below the pudenda ; and it was of an oval form, thicker at the top and pointed at the lower end, where plainly appeared the os tincae, and from whence the menstrua had issued periodically till about a month before I was acquainted with the case. The touch produced an impression like that made upon an œdematous swelling. I soon found that it was impossible to reduce it ; the narrowness of the passage not admitting so large a body ; which, added to the exquisite torture which the poor creature seemed to suffer upon its being handled, obliged me to desist, and to try whether the bulk could not be diminished by external applications. I apprehended indeed there could be little expected from them, unless the constriction above upon the blood-vessels could have been first taken off. Accordingly they did little more than that of healing the excoriations occasioned by the involuntary flux of the urine : and I expected nothing but her death. Her complaints increasing, and a diarrhœa coming on at the same time, put an end to her misery. The tumour showed no tendency to mortification during any period of its existence. Having obtained leave to open the body, I first found an extraordinary perversion of the order of the intestines. The liver was also drawn into the lower part of the hypogastric region ; and the œsophagus being vastly lengthened, admitted of the stomach sinking down into the umbilical region. The pelvis void of the bladder, as well as of the matrix, gave place to the intestines. I sawed off the ossa pubis on either side, each near its corresponding ilium, in order the better to view the situation and structure of the tumour. I could then observe the fimbriæ of the Fallopian tubes just appearing out of it under the arch of the pubis. I found each ureter as thick as my thumb, their coats exceedingly inflamed, and so far prolonged as to pass out of the trunk of the body into the tumour. I then traced them back to their respective kidneys, whose cavities I found full of a purulent matter, and could easily pass my fore-finger out of each pelvis into the ureters, both of which were full of the same fluid. The meatus urinarius, which was at the top of the tumour, was so much ulcerated that I easily put in my finger AND FELT THE END OF A SHARP STONE. I enlarged the aperture with a pair of scissors and extracted it. It was in figure something like a chemical retort, with its neck answering to the neck of the bladder, and it weighed four ounces and three drachms. By dissection I found that the vagina, being inverted, formed the external coating of the tumour. The fundus of the bladder having been turned

upside down by the weight of the stone, drew with it the body of the womb, together with the Fallopian tubes, and also the ovaria, the ligamenta lata, part of the rotunda, and the ureters; and these constituted its whole bulk. Communicated by Dr. Thomas White, of Manchester. *Medic. Observ. and Enquiries*, vol. iii. p. 1, 1769.

Added to these morbid constitutional influences as so many causes of descent of the womb, we have to notice the more direct mechanical effect of structural enlargements of that organ itself, or of its lateral appendages, or, in short, of any parts or tissues in or near the pelvis, which, by their incumbency or pressure, may have a tendency to add importantly to the proper weight of the uterus, and, consequently, to the actual bearing to be sustained by its suspensory ligaments. This part of our subject will come in the way of being frequently illustrated in future articles of our work. There is, however, one special cause of the mal-position of the uterus under consideration, which is so novel and peculiar that the reader would seem to have, at once, a right to be made acquainted with it, as it is exemplified in the only case of its kind that the author is acquainted with. It is found very recently published in the work more than once already referred to, of Mad^{me}. Boivin and M. Dugès, vol. i. p. 105. "The Countess of B., aged twenty-five years, and of a sanguineous constitution, had menstruated regularly and in sufficient quantity since she was fifteen years of age. From the date of her marriage, which took place five years ago, her menstrual tributes have been so profuse as in some sort to present the character of a metrorrhagia. Sexual intercourse has been always painful to the countess; but the desire of becoming a mother operated so much the more strongly on her mind in proportion as she gave way to her fear that she might not be happy enough to ensure for herself that blessing. The conjugal act had therefore become so frequent as to have caused many successive inflammations, for which, on every occasion of their occurrence, recourse was had to an anti-phlogistic treatment, and to abstinence of longer or shorter duration from the principal cause of the phlogosis complained of. At length it began to be suspected that something peculiar in the disposition of the parts might possibly operate as a cause of infecundity. In order, if possible, to establish that fact, I was requested to see the countess in September, 1829. She was at that time about to become the subject of a menstruating period. The right labium pudendi was of reddish hue, tumefied to about the size of a pigeon's egg, and exquisitely painful to the touch. An intumescence of this kind of the parts in question always presents itself at the approach of the menstrual period, and disappears on the retirement of that evacuation. The vagina was found to be no more than an inch in length, or to state the fact more correctly, the appearance of the presence of that passage was actually furnished at the expense of the integumental tissues of the vulva; inasmuch as the os tinæ immediately bordered upon the inferior commissure of the labia majora; and upon the patient making the slightest effort, the vaginal part of the

uterus actually protruded out of the passage. In pressing or moving the same part of the uterus in whatever direction, the finger could not be made to enter to more than about one inch of its depth. The violence of the efforts which had been exerted during the performance of the sexual act, having partly for its object the removal of the impediments which were found to obstruct its perfect consummation, had no doubt been productive of the symptoms which we have already described; whilst at the same time that they were principal agents of contravention to the ardent wishes of the young countess. I found it a matter of some difficulty to make myself sufficiently understood by a young lady full of piety and modesty; and I therefore made a statement of the facts, with which the reader is now acquainted, to M. Dumeril, accompanied by a request that he would confer with the lady's husband on the subject of her case, and give him such advice and directions as might tend to the fecundation of the countess. The menstrual tribute ceased to make its appearance after June, 1830. A moderate abstraction of blood was made at the time, when the immediately succeeding tribute of the catamenial function might have been expected to make its appearance. The most perfect quietude, constant repose upon a sofa, were, under my directions, continued till the 6th of September. The patient was extremely well sustained; her appetite and sleep were excellent. But, unfortunately, I have only a pretty strong presumption of the existence of pregnancy; the departure of the family from Paris, immediately after the revolution of July, having left me in some degree of uncertainty on that point." *Traité Pratique des Maladies de l'Uterus et des ses Annexes*, tom. i. p. 105.

OF THE PRINCIPLES ON WHICH SHOULD BE FOUNDED A CORRECT DIAGNOSIS ON THE SEVERAL FORMS AND STAGES OF PROLAPSION OF THE UTERUS.—To ensure an accurate developement of the facts and principles on which the several branches of this part of our inquiry are to be founded, it seems necessary that we should more constantly than we have yet had occasion to do, advert to the different forms of the mal-position of the uterus under consideration as distributed into three distinct stages: it being the fact that the several degrees of descent of the womb have each and singly their respective liabilities of being confounded with or mistaken for other diseases, or for displacements of natural tissues. We shall first, therefore, consider the diagnosis of descents of the uterus in their first stage. It is obvious that this form of the complaint is liable to be confounded with tumours or displacements of parts situated within the pelvis. The first degree of descent of the womb might by possibility be confounded by an inexperienced individual, and very easily by the patient herself, for an original excess of length of the vaginal portion of the organ itself; that part projecting perhaps into the hollow of the vagina below, instead of three quarters of an inch or an inch at most, an inch and a half or two inches. The same part has sometimes been known to acquire a preternatural elongation of its tissue after the cessation of growth of other parts, without becoming the

subject of a positive disease of tissue. In either case the extremity of that part, by constant collision with the inferior and more contracted portions of the vagina, may become a source of much discomfort to its subject, and lead to the supposition of her case being one of BEARING DOWN of the womb. The objects of the diagnosis would here be to ascertain as precisely as possible the entire length of the vagina, from the rapha of its natural connexion with the neck of the uterus to its orifice; the absolute length of the vaginal part of the uterus; its proportional length to the length of the vagina; and any other peculiarity of its form, besides its unusual length; such as a great narrowness either of the whole or of a part of it, and an approach to an actual pointedness of its extremity; or else either with or without a morbid condition of its structure, an excess of its dimensions in all directions; and, finally, the fact of its extremity being perforated by an aperture. The greater part of these several points might be satisfactorily ascertained by the taxis alone: and in young and unmarried subjects it might be very desirable to be able to accomplish that object without the aid of a speculum.

It has not unfrequently happened that AN INCIPIENT STRUCTURAL DISEASE OF THE WOMB has been mistaken for the first stage of its descent from simple relaxation of its ligaments; the patient in both cases usually complaining of pain, which she refers to the small of the back and to the sacral region of the pelvis, as well as to the parts within and in the course of the vagina; whilst she is also equally in both cases the subject of a leucorrhœal discharge. Structural disease of the uterus is not a very common malady of young subjects. Therefore, in cases of this kind, when they do occur in the more aged, we might perhaps be able, with little difficulty, to avail ourselves of the use of the speculum. But the taxis alone will, in by far the greater number of cases, enable a practitioner experienced in such duties to come to a sufficiently correct conclusion as to his diagnosis. In a case of simple descent of the uterus, he would find the inferior extremity bearing very low down posteriorly on the parietes of the vagina, or perhaps pretty directly on the very verge of its orifice. The most convenient positions for such examinations are those of standing and of half-sitting and half-lying. In the event of the case being one of incipient structural disease, the best position of the patient for vaginal examination would be that of lying on her left side. Two principal circumstances might be assumed in most cases as likely to establish the fact, viz. great excess of sensibility of the uterus, or excess of its bulk. Added to excess of bulk, there might also be encountered some striking peculiarity of its morbidly enlarged tissue. The practitioner should take great pains, even during the first examination permitted him, to satisfy himself of the precise condition of every part of the uterus accessible to his taxis. If he should encounter structural disease, he would be competent at once to come to his conclusion, so far at least as it might concern his diagnosis in connexion with the present inquiry.

There is one very painful condition of the uterus, viz. that which has been

called THE IRRITABLE UTERUS. See a description of that complaint in p. 334, which can only be distinguished from its simple delapsion by an accurate knowledge of the fact and amount of the subsidence of the organ in the one case, and by the intensity and other peculiarities of the accompanying symptoms in the other. It is, indeed, a part of the descriptive history of hysteralgia, that it is accompanied by a slight bearing down of the womb; whilst, moreover, the postures of sitting and standing, and all exercises contributive to locomotion, or requiring any other active movements of the body, seem equally calculated to exasperate the symptoms of both diseases. Upon the whole, it may be asserted that the best pathognomonic symptom, and the one perhaps most to be relied upon in practice, is the fact, that the incipient state of simple descent of the uterus is not nearly so painful a condition of the organ as that which attends on the other malady here referred to.

Another disease of the uterus which might require some attention on the part of the medical attendant, to enable him confidently to distinguish it from mere delapsion of the womb, would seem to be one variety at least of POLYPUS. When a polypus, or a polypoid growth, is found to be a distinct production of the interior of the uterus, and it is felt to have its stem every where bounded and surrounded by the parietes of the orifice of that organ, there could remain no doubt of the nature of such a case. Such a body protruding out of the cavity of the womb so as to encroach painfully on the parietes of the vagina, could not fail to be attended by symptoms which could not be distinguished by the patient's sensation; nor upon the mere recital of them ever so correctly, could their difference be made intelligible to the professional attendant, from the symptoms most characteristic of the two first stages of prolapsion of the womb. The variety of polypus intended here to be especially instanced, is that which has sometimes been known to take its origin from the labial boundary externally of the orifice of the womb. The diagnosis could of course be decided only BY VAGINAL EXAMINATION.

Symptoms similar to those usually attendant on descents of the uterus might be produced by OTHER VARIETIES OF TUMOURS OCCUPYING DIFFERENT PARTS OF THE PELVIS. For example, a part of the rectum might be the seat of a painful intumescence of its tissue; or morbid deposits of unorganized formations perfectly foreign to the natural structure of the part might be found encysted within the several tunics of the vagina; or other similar tumours might be discovered to be growing from the periosteum of the inside of the pelvis, etc.; not any of which could be expected to occupy their several localities without producing symptoms which could very difficultly be distinguished, WITHOUT VAGINAL EXAMINATION, from the most common symptoms incident to any considerable precipitation of the uterus. Examination per vaginam would here also be the practitioner's first duty. In all such cases the uterus would probably be found to occupy its proper situation, or at least its proper elevation relatively to its natural situation within the pelvic cavity; and that

the diagnosis would be beyond a doubt established by a distinct cognizance on the part of the practitioner of the vaginal part of the uterus being situated remotely from, or at least unessentially connected with, the structurally diseased part of the case.

The reader is already in possession of the means of coming to a satisfactory diagnosis between any stage of prolapsion of the womb and HERNIAL PROTRUSIONS, whether intestinal or vesical, into the vagina. (See p. 158 and 191.) In all these cases, whatever might be the seat of the protrusion, the orifice of the womb would be distinctly to be felt, either at some distance above, or at least as forming no part of, the protruding tumour.

Simple descent of the womb might possibly be confounded by a careless or inexperienced practitioner for some other malposition of the same organ, and such a blundering mistake might compromise even the life of its subject. The uterine malpositions in question are retroversion, anteversion, and inversion. Now all these malpositions are easily distinguishable from simple prolapsion of the same viscus.

In complete inversion of the uterus, the more advanced portion of the displaced organ must of course be its fundus, where indeed it were needless to expect to meet with any form of structure which could give one the idea of its orifice. But inasmuch as the neck of the uterus is adherent by cellular membrane to the neck of the bladder, a puckering which, although it might in some degree embarrass the diagnosis between a tumour so formed and a polypus uteri, could not be mistaken for a simple prolapsion of the womb; the uterine aperture, in the latter case, being easily to be found in or near the centre of the prolapsing tumour.

In a case of partial inversion of the uterus it would require great care to distinguish between a tumour of that kind, and a polypus having its base within the uterus, and only incipiently protruding through its orifice. The author, indeed, is doubtful how far it might be proper in such a case to found a final opinion on the result of an examination by the taxis alone. In a partial inversion and a protrusion to some distance, of the tumour thence resulting into the vagina, see fig. 2, pl. xix. at b, it would be really exceedingly difficult to determine the precise character of such a case, without the aid of the speculum.

In cases of retroversion of the uterus, its orifice is found tilted up against the symphysis of the pubis, and often so high up as to be difficultly reached by the examining finger; whilst its fundus is thrown over posteriorly, so as to occupy more or less deeply the hollow of the sacrum.

In cases of anteversion of the same organ, its orifice is determined to the hollow of the sacrum, and its fundus borne forward so as to press inconveniently and painfully against the posterior walling of the bladder.

PROLAPSION, OR DESCENT OF THE UTERUS OF THE SECOND DEGREE, is to be distinguished from an incipient inversion and prolapsion of the vagina;

from a uterine or vaginal polypus beginning to protrude at the external orifice; from vesical and entero-vaginal hernia; from morbid growths from the interior of the vagina and the surfaces about the vulva; from some cases of inverted uterus, whether accompanied or unaccompanied by rupture of the perineum; from unusual conformations of the external genitals; and from original peculiarities of situation of the uterus relatively to the pelvis and to the vagina.

This descent of the uterus of the second degree is to be distinguished from inversion and prolapsion of an inferior part of the vagina by the form of the tumour and by the characteristic difference of the tissues respectively of the prolapsing parts. The presenting part of a prolapsed uterus is usually much narrower, smoother, and of greater closeness of texture, than is that formed by an inversion and prolapsion of the vagina. The orifice at the most depending part of the former is smaller, more distinct, and transverse in its direction; whereas, in the latter case, it is circular, bounded by deep concentric ridges and furrows indicative of the contractility of its surrounding tissue, and terminating in the centre of a soft largish tumour, through which the finger may be easily passed up into contact with the actual orifice of the uterus. The usual appearance of a prolapsion of the vagina with its characteristic aperture in the centre, is very faithfully represented in fig. i., pl. x.

The tumour formed by a HERNIAL PROTRUSION OF THE BLADDER occupies, principally, one side of the vagina at or near its orifice, and is sometimes seen even to protrude through it; whilst the other side of the vagina is found perfectly healthy and unoccupied; the vaginal part of the uterus in the mean time being to be felt either at some little distance above the tumour, or merely resting upon it, and in no other way connected with it than by simple apposition.

In like manner ENTERO-VAGINAL HERNIA is to be distinguished from prolapsion of the womb by the easily ascertainable fact of the co-existence of their subject tissues in one and the same person, and also by their respectively different localities.

MORBID GROWTHS from inferior portions of the vagina, and from the surfaces about the vulva, are to be distinguished from prolapsion of the uterus by their characteristic difference of tissue, by the coexistence of both tissues in the same person, as in the former case, and by the absence in the parasite growth of all appearance of aperture at its most depending part.

Cases of totally inverted uteri accompanied by rupture of the perineum, may easily be distinguished from prolapsions without inversion of the same organ, by the absence in the former case and the presence in the latter of an orifice at the most depending part of the prolapsing viscus, as also by other circumstances which it will be more particularly our duty to notice when we come to treat of inversion of the uterus as a separate subject.

A very low congenital position of the uterus relatively to the pelvis and to the vagina should be distinguished from subsequent prolapsion of the former organ by vaginal examination. See Madam Boivin's case, as already quoted in p. 541.

A correct ascertainment of either of these cases, as also of all structural enlargements and peculiarities of conformation of the external genitals, will be found quite easily attainable by means of the taxis, or, at all events, by the eye, without the aid of the speculum.

PROCIDENTIA, OR THE THIRD STAGE OF PROLAPSION OF THE UTERUS, is to be distinguished from prolapsion complicated with inversion of the same organ, by the inferior vaginal portion of the womb being perforated in the usual way by its characteristic orifice in the former case, and by the absence of all appearance of aperture in the prolapsed viscus in the latter: not to add also that in the latter case the tumour is broadest, and in every way largest at its extremity; whereas, in a case of procidentia without inversion, the tumour is usually largest about its middle. See pl. x. fig. 2. Again, in a case of procidentia of aninverted uterus, two roundish depressions situated laterally and rather low on either side of the tumour, will serve to decide the nature of the case beyond all possibility of doubt, by identifying themselves with the uterine orifices respectively of each Fallopian tube. See these appearances exceedingly well marked at b and c, fig. 2, pl. x. B.

Procidentia of the uterus, whether at the same time inverted or not, will be tolerably easily distinguished from polypi and other morbid growths of uterine, vaginal, or pudendal origin, by the former being found to possess their natural feeling upon being touched, and even frequently a morbid excess of sensibility to pressure and pain; whereas, fungoid and parasite growths from the same surfaces are almost always devoid of sensation.

A considerable protrusion of the rectum was once mistaken for a case of procidentia with inversion of the uterus. The tumour first presented itself contemporaneously with the birth of a large child. The portion of protruded intestine was of such a magnitude and so tensely distended, as to have had the effect of concealing all the passages from the pelvis. The author, however, soon learnt that the after-birth had not been removed, and he found the placental portion of the umbilical cord prolapsing from between the person of the patient anteriorly and the mass of inverted intestine-looking substance which occupied the space, as already described, between the nates and the superior parts of the thighs. The umbilical cord was firmly taken hold of by the left hand, whilst the right was gradually and very cautiously carried up along it into the vagina, which was found widely developed and empty. At that moment the placenta could not be reached without causing more pressure to be made upon the tumour than might be convenient, or was at all necessary. There was no discharge of blood, and the uterus could be distinctly recognised through the parietes of the hypogastrium. These facts went incontestably to prove that the placenta was still attached to the uterus, and that the uterus itself occupied its proper situation, under its then circumstances, within the abdominal and pelvic cavities. In its feel and form, and character of tissue, the protruded body furnished

unequivocal proofs of its proper nature and source; to the latter of which it was indeed in a few minutes very satisfactorily traced; and in about half an hour afterwards it was equally satisfactorily reduced.

OF THE TREATMENT OF DESCENTS OF THE UTERUS.—Of the treatment of this class of malpositions of the womb, it may perhaps be more truly observed, than of almost any other causes of derangements of health, which women are especially liable to, that prevention is better than remedy. The causes in question in nine cases out of ten being a too early getting up and resumption of ordinary occupations after puerperal confinements, it is obvious that in exactly the same proportion the morbid result would be avoided, could puerperal females be induced to avoid these causes. The uterus often contracts in the course of a few hours after delivery to a volume sufficiently small to admit of its easy delapsion into the pelvic cavity, provided the patient were allowed or encouraged to assume positions which might favour such a descent; whereas, at that early period, little or no resistance could be expected to be opposed to such a tendency by reason of the state of extreme relaxation and development both of the uterine ligaments and of the parietes of the vagina. Experience therefore has long established the propriety, and indeed the necessity, of causing women, during the period in question, *LITERALLY TO LIE IN*; that is, to use, more or less exclusively, at that time, the recumbent position, and also to take the benefit of that position within doors, or perhaps more expressly within their own chambers. There is no precise measure of time allotted for the observance of this duty; and it seems to admit of considerable difference as to its duration in different cases, according to age, previous state of health, present strength, and other circumstances of the patient. The uterus is presumed not to recover its proper size and weight, such as these should be subsequently to its having been once developed by the phenomena of pregnancy, in less than six weeks after delivery. Experience, however, proves that its suspensory ligaments and other varieties of tissues by which it is connected with the pelvis and its neighbourhood are, under ordinary circumstances, sufficiently restored both as to their tone and dimensions to be able to sustain the womb and its appendages in their proper situation, relatively to the pelvis, in about half, or even something less than half, that time. It is, however, not here meant that a puerperal woman should always and absolutely lie in bed *DURING THE WHOLE OF THREE WEEKS*. Perhaps in the greater number of cases, the period of strict durance might be safely abridged to the first eight or ten days after the delivery; but that during the remaining portion of the first three weeks the patient should only be restricted to a moderate observance of the same general precept, and in the mean time permitted very cautiously to change her apartment, or to make use of any personal exertion. The foundation for the miseries incident to prolapsions of the uterus, is perhaps most frequently laid during *THE FIRST PUERPERAL CONFINEMENT*. It is then that women are most inexperienced, as well as most confident

in their own cleverness and personal strength. Being at the same time totally uninformed of the changes which the uterus and its appendages have to undergo at that period, it should be considered by the attendant practitioner as especially his duty on such occasions to explain to his patient the reason or proper ground of his restrictive precepts to her in respect to her observance of the horizontal position, and to her abstinence from all active personal exertions for a given number of days after delivery. She should be made distinctly to understand, that the obligations imposed upon her are not pressed upon her attention in compliance with any system of mere routine, or from any notion of want of strength on her part to resume her usual occupations, or even from any apprehension of danger to her life in the event of their being neglected: but simply that by such conduct she would secure herself against any risk of descent of the womb and of its often incurable accompaniments and consequences. A perfectly intelligible and unexaggerated explanation of the evil apprehended, and of its principle of prevention, will be found much more convincing in its influence than any propounding of abstract general rules, however earnestly and repeatedly urged upon the patient's consideration.

THE INDICATIONS FOR THE CURATIVE TREATMENT OF DESCENTS OF THE WOMB ARE, 1st, to reduce it to its proper situation in cases requiring the aid of art for that purpose; 2dly, to sustain it in its natural situation by suitable mechanical expedients, as long as the employment of such means might be deemed necessary to prevent relapse; and 3dly, to promote and sustain the general health, and also the tone of the parts more immediately implicated, by well-adapted constitutional remedies. In some of the milder and incipient forms of descent of the uterus, it may often suffice to adopt such measures as may be exclusively suggested by the latter indication, viz. that of promoting and sustaining the general health and the tone of the parts implicated, by the use of proper constitutional and topical remedies. In a certain proportion of such cases, and more especially when they occur in cachectic or very debilitated subjects from whatever cause, the incompetency of the uterine ligaments to sustain the womb in its proper situation within the pelvis, may essentially depend upon their relaxed and enfeebled condition; that condition being directly or indirectly the effect, or rather indeed a part, of the general relaxation common to the whole system. In cases of this description, our principal indication should be to restore the general health and strength by active tonic remedies, preceded or accompanied, when either might be deemed useful, by a judicious course of alteratives. In the event of the vagina being supposed to participate in the general state of morbid relaxation, and there to co-operate with that of the uterine ligaments to determine the prolapsion complained of, the patient might be very properly supplied with varieties of tonic and astringent fluids, and a suitable instrument for injection, together with directions for their frequent application to that passage. In cases of prolapsion of the uterus conse-

quent upon mismanagement or neglect of proper precautions during the puerperal state, it will be found almost always necessary to superadd to any measures of constitutional treatment suggested by the general indication above adverted to, the obligation of an immediate return to the practice of the duty previously neglected, that of using the horizontal position, either altogether, or for many hours daily, according to the more or less urgent claims of the case. At the very commencement of a bearing down of this kind, the personal management in question, immediately put in practice, and rigidly pursued for two or three months, might probably suffice to ensure a restoration of the suspensory ligaments of the uterus to their former tone and strength. In prolapsions, however, from the same cause, when of considerable amount or become chronic from long standing, no substantial relief could be expected to be obtained without the aid of a pessary, nor frequently a perfect cure, even with that aid, until the phenomena of a future puerperal confinement might furnish opportunities for new combinations adapted to certain changes of condition of the ligaments and other fastenings of the uterus which might then be expected to take place. With that view ultimately, and for the relief of present symptoms, mechanical expedients of the kind already alluded to should be had recourse to without loss of time. The most easily-worn pessary, and one perfectly well calculated to meet its intended indication, might be found in a rounded piece of fine sponge of sufficient volume to retain its position within the vagina. The principal objection to a pessary made of sponge, is its peculiar susceptibility of becoming charged with offensive and irritating impregnations, and the consequent NECESSITY for its being DAILY withdrawn and replaced. But there is one mode of making its introduction perfectly easy to a female possessing even an ordinary degree of dexterity in the use of her fingers. Let her be supplied with a tube made of ivory or of box-wood, see fig. 3, pl. xi. B, with a bore gradually tapering from about two inches at its base or broader end, at a, to its smaller extremity, of which the diameter should measure only seven-eighths of an inch. Take the piece of sponge properly rounded, and cleansed from all sabulous or other impurities, and affix to it a loop of narrowish tape or riband, as marked by the small letter b, fig. 4, pl. xi. B; and after securing each end by tying them firmly together, carry the knot thence resulting into the interior of the sponge. After duly charging the pessary with any tonic or astringent fluid deemed most suitable to the case under treatment, and again partially discharging it by pressure, let it be put into the broader end of the tube, and thence pushed forward, by means of the little ramrod m, to the small end of the tube, and so far even beyond its extremity as there to make its appearance in the form attempted to be represented by the part of the drawing marked w. The sponge is thus made to sustain at the smaller end of the tube a great degree of compression, but nevertheless so placed within it that a very slight propellent pressure might suffice to push it entirely through. It may here be well to observe, that a sponge of adequate size could not be easily pushed through the narrowest parts of the tube by applying the end of the



Fig. 4.

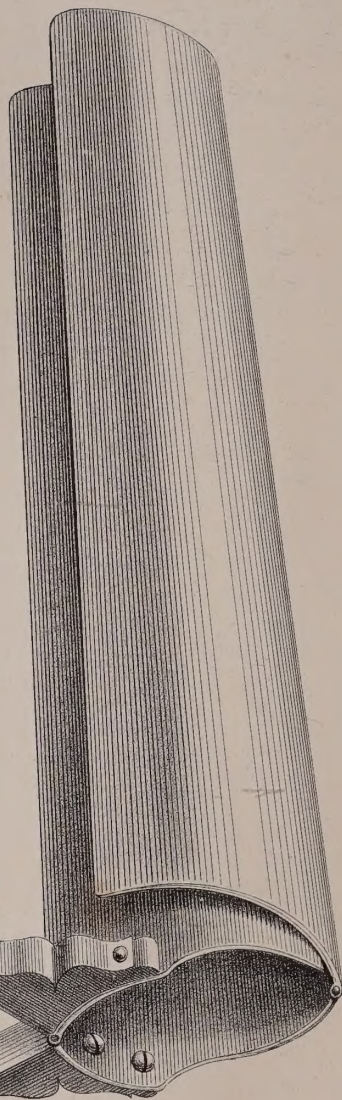


Fig. 2.

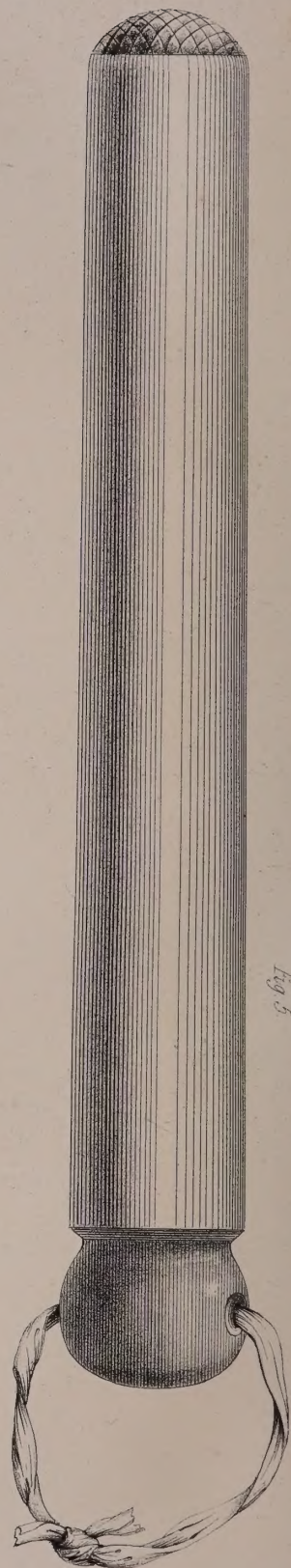
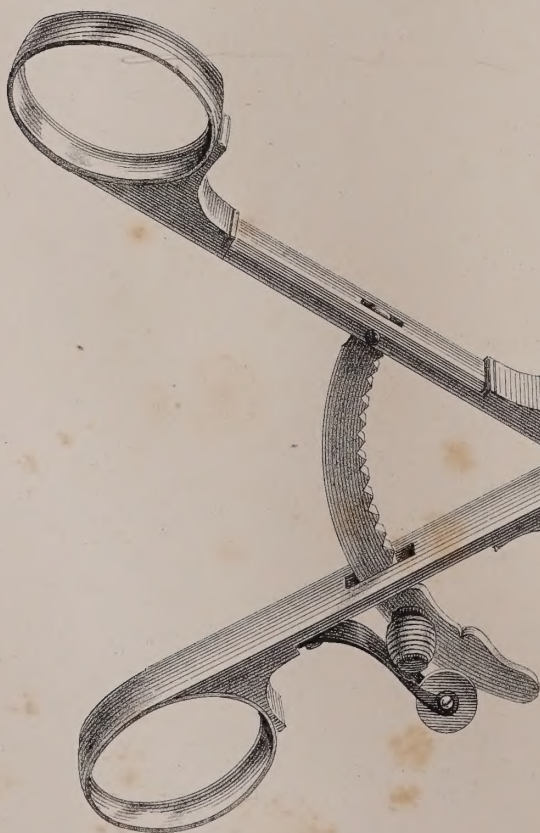


Fig. 5.

Fig. 4

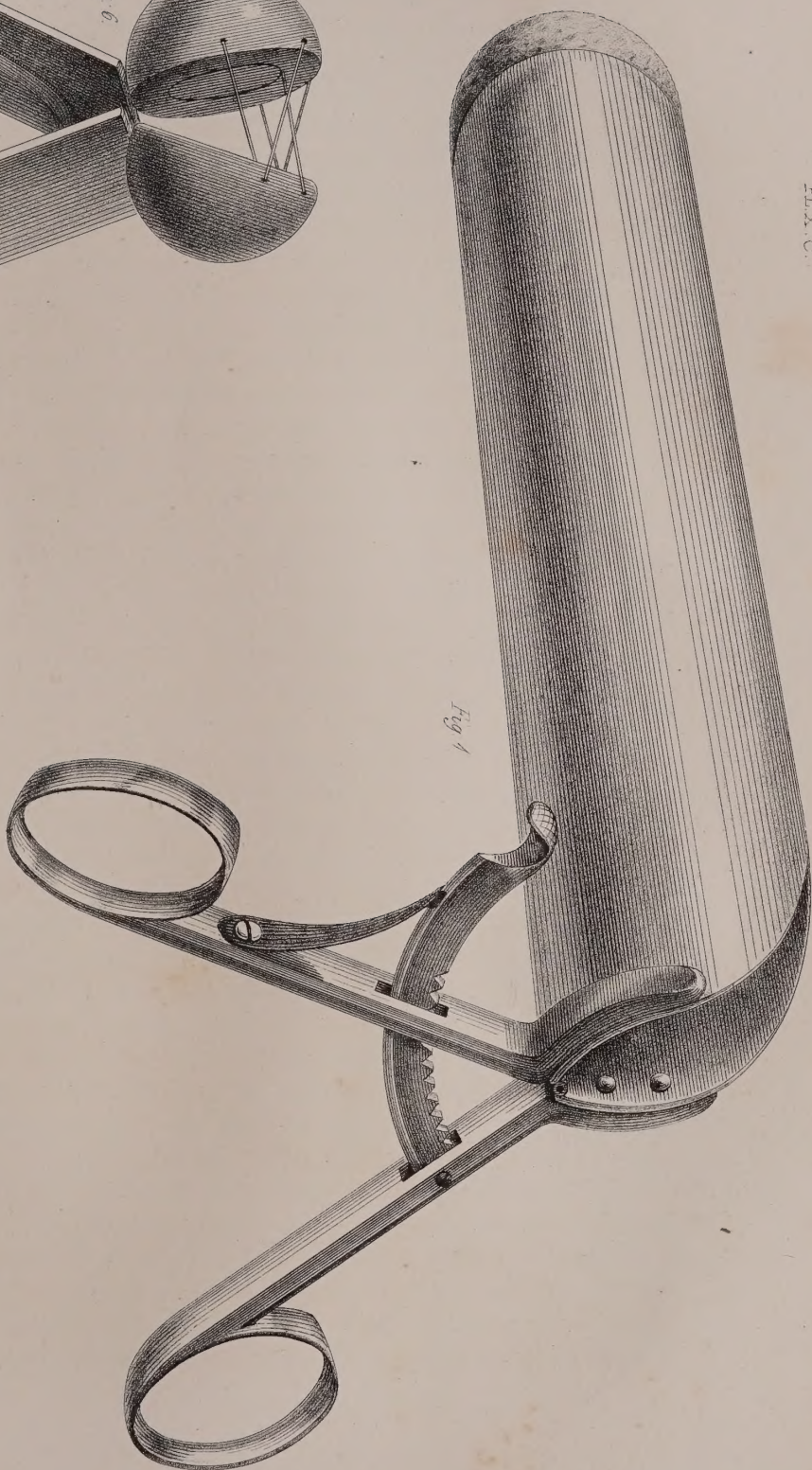


Fig. 6

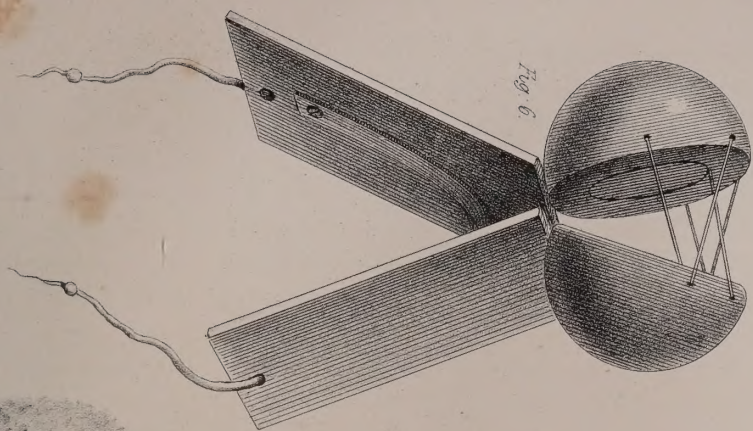
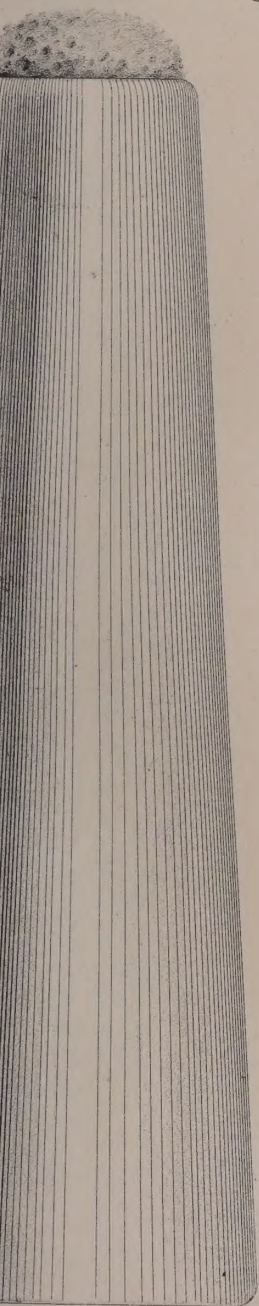


Fig. 3.



propelling instrument to its centre; for in that case it would be speedily enveloped by so much sponge as would effectually obstruct its progress. To accomplish the object, therefore, the smaller end of that instrument must be applied partly to portions of the sponge remote from its centre, so as to make a bearing first upon one part and then upon another, and partly to different points successively of the sides of the tube. In this way a largish piece of sponge may be passed quite easily through a tube of a very moderate diameter. Another mode of conveying a piece of sponge into the vagina without much difficulty, is by means of a pair of forceps, having its purchase surfaces somewhat broad and curved, as represented in fig. 5, pl. xi. B. When the sponge shall have been thus introduced, the instrument is to be disengaged and adroitly withdrawn; any further adjustment of the pessary to be made, when necessary, by means of the finger. Sponge pessaries should indeed be withdrawn and replaced AT LEAST ONCE EVERY DAY. One great advantage attaching to a sponge pessary, is the facility which it affords for keeping the parietes of the vagina more or less constantly exposed to the action of whatever medicated fluid the practitioner may feel it his duty to recommend to be applied to it; for the sponge pessary may always be worn, more or less charged with the fluid furnished for that purpose. The author is in the habit of entrusting that duty to the patient herself; merely giving her general directions to avail herself of a horizontal position with her knees retracted, and to charge the inferior or more accessible part of the sponge, from the mouth of a small cream-jug or the pipe of a toy tea-pot. Practice will enable her in a short time to determine the proper quantity to be used for each charge of the fluid.

In the event of want of ability or inclination on the part of the patient to manage the sponge pessary; the practitioner's next choice should be that of a ring pessary of sufficient diameter effectually to answer its purpose, and admitting of being so accurately adjusted to the space it should occupy, as not to annoy the patient by its pressure, nor importantly to interfere with the proper functions of the organs within the pelvis. Of this variety of pessaries some are made of hard and closely-textured materials, such as several of the metals, ivory, box-wood, etc. Of these the lightest and cleanest are those which are made of wood. It should, however, be recollected, that in proportion as the material of a pessary is unyielding, is generally the difficulty of its adjustment: when, on the other hand, a particularly good adjustment is effected, an instrument of that kind has been worn for so many years, and with so little inconvenience, as actually to have been forgotten by the patient herself. With some little care and painstaking it is to be presumed, that in almost every case requiring such assistance, the parts constituting the flooring of the pelvis not having sustained a solution of their continuity, a fine-grained wooden pessary may in fact be so introduced and adjusted, as most completely to obtain all its essential objects. When this fails, by reason of a refusal on the part of the patient to become the subject a second time, or of repeated trials to effect it, or from any other cause, then a

pessary of a similar form, but consisting of less unyielding materials, should be proposed to be substituted. It should not be forgotten by the medical attendant, that in cases of prolapsion from the cause which we have here supposed, the utmost possible freedom should be ensured for the practice of the rights of marriage, in prospective reference to an ultimate cure to be obtained by a judicious treatment of the case DURING A FUTURE PUERPERAL STATE. It might indeed happen, that an incipient case of prolapsion, consequent upon imprudent management during the first weeks of a puerperal confinement, might require only a temporary wearing of a pessary of any kind; inasmuch as it might very possibly happen that a uniform and perfect support being given to the uterus, for only three or four consecutive months, the uterine ligaments might sufficiently recover their natural tone and dimensions as afterwards to be competent to sustain that organ in its proper situation without the aid of any artificial mechanism whatever. The return, however, of such tone and power should be exceedingly cautiously tested before it could be proper altogether to dispense with the artificial support.

The greater number of pessaries, of whatever form or material, and however accurately adjusted and comfortable to the feelings of the patient, are usually accompanied by more than the ordinary amount of secretion from the mucous glands, both of the vagina and of the neck of the uterus. This inconvenience should of course be met by a more frequent employment of the bidet, and of suitable lotions and injections, and by the use of the tepid bath at least two or three times a week.

Some practitioners prefer to the ring pessary here recommended, an oval one made of the same material. This preference is professed to be founded on the supposition that in many cases an oval pessary may be made to answer its intention more effectually, from the better support it commands against the lateral and inferior parietes of the pelvis, and at the same time the less impediment which it would seem calculated to give to the functions of the bladder and the rectum than the perfectly circular one. In either case the aperture in the centre of the instrument should be of such a size and form as should ensure a partial engagement of the orifice of the uterus within it, and also furnish a cushioned support to as much of it as should not be permitted to engage within the aperture of the pessary. The adjustment of the vaginal part of the uterus to the aperture in the pessary should be made the subject of very particular attention. When too small, it is apt to fail in giving to the orifice of the uterus a secure and an easy position; and when it is too large, the projecting vaginal part of the same organ is admitted into it too deeply, and is thus made to incur the liability of becoming strangulated by it; a result of which there are several examples on record. The pessaries of this kind in common use in this country, are made with horse-hair, wool, coils of flannel, etc., etc., covered with leather or elastic gum, and further protected with successive layers of varnish. For many years, cork pessaries, made smooth with a coating

of wax, were almost exclusively used in all countries where such instruments were used at all.

In cases of prolapsion occurring at an advanced period of life, and especially for the relief of widows and unmarried females suffering from this class of ailments, globular pessaries have been very strongly recommended. When these pessaries are made of box-wood, which is their ordinary material, they are perforated by several smallish apertures at two opposite parts of the sphere, for the more convenient transmission of the uterine secretions; of which one set, when the instrument is adjusted, is supposed to be placed opposite to the orifice of the uterus, and the other to look down towards the orifice of the vagina. The globe pessary is made hollow within, by which it is made much lighter than it could otherwise be, and therefore much more conveniently worn. Attached to the more depending part of it is usually a loop of riband or tape as a handle, for its more convenient removal.

The author has, in several cases, made use of an instrument made exactly on the same principle with the globe pessary, but with what he is disposed to consider a small improvement of its form. See pl. xi. B, fig. 2. The instrument thus modified is of an oviform figure, perforated as in the other case at both ends; the larger or superior end being considerably broader than the inferior one, as also depressed and slightly hollowed in the middle, so as to afford a more easy as well as a more steady rest to the orifice or vaginal part of the uterus. It is the central portion of this cup-like hollow that is perforated at the superior part of the instrument for the transmission of the uterine secretions. At the inferior or smaller end of the instrument there are corresponding apertures for the proper discharge from its cavity of the fluids which are received into it at its superior end.

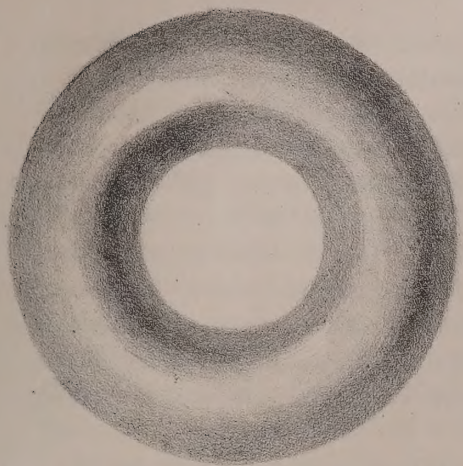
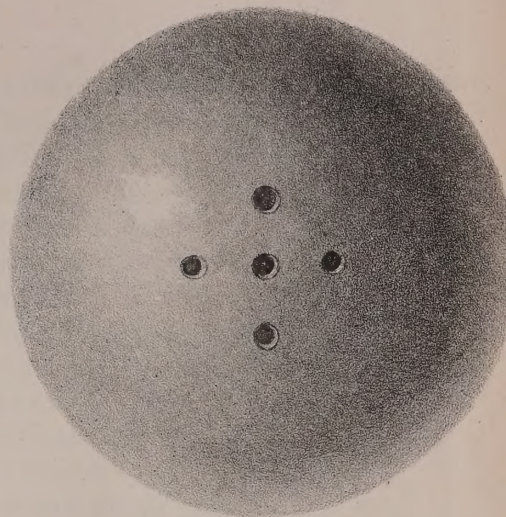
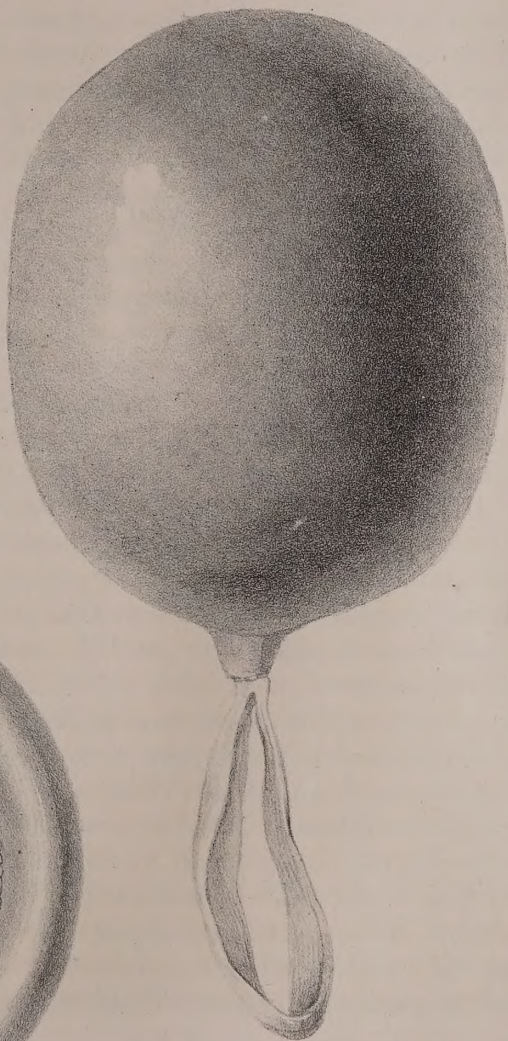
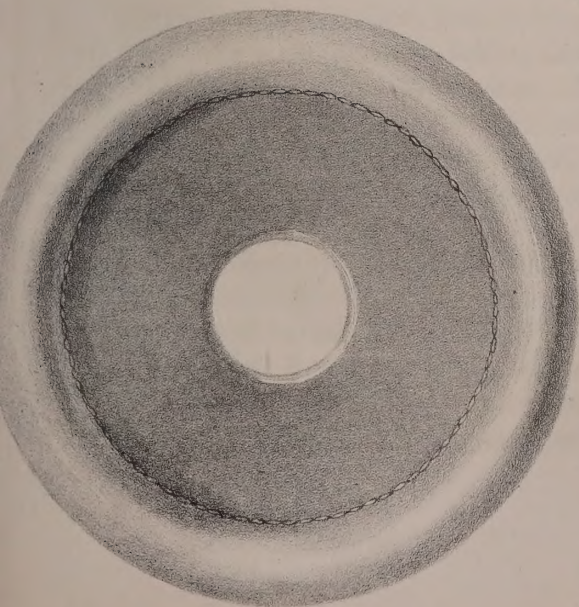
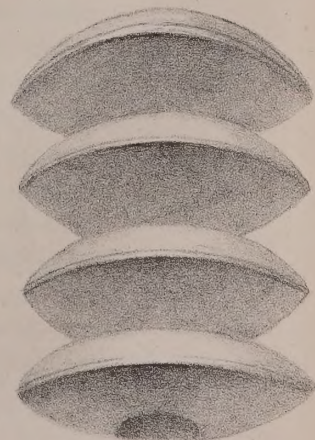
It seems remarkable that a piece of mechanism so simple in its conception as would appear to be the globe pessary, should really be one of comparatively modern invention. Dr. Denman, no longer ago than 1786, in a letter to Dr. Foart Simmons, published the following account of its history: "Many years ago, when my very worthy friend Dr. Manningham retired from business, he gave me a number of curious articles, which could not fail to be very acceptable to a person engaged in teaching midwifery. With these there was a great variety of pessaries; and among the rest were some formed of a globular piece of wood made exceedingly thin and light by excavation. HAVING NEVER BEFORE SEEN ONE of this kind, I inquired of the Doctor its history, and the mode of applying it. He informed me that it was invented by the late Dr. Sandys, who had long considered it as preferable to any other sort before recommended. More than a year after this time, I was desired to see a poor woman with a very bad prolapsus, which the common pessaries were incapable of supporting; and revolving in my mind which might be the best method to pursue for the relief of my patient, I recollected Dr. Sandys' pessaries. One of these was immediately introduced. It has been worn for many years, and there has been no return of the complaint. In the course of the last

four or five years I have met with several instances of patients labouring under this disease to an extreme degree, who had been under the care of very able practitioners, and tried different kinds of pessaries. For all these I have used the globe pessary, and have not met with any case in which it had failed to answer my expectations. It has not only supported the uterus better than any other, but it is introduced with more facility, and is worn with more ease and comfort, not making undue pressure on the parts on which it rests." *London Medical Journal*, vol. vii. p. 57. Dr. Denman retained his preference of the globe pessary as long as he continued in practice. The instrument is pretty accurately represented in pl. xi. fig. 2.

The pessary represented in the same plate, fig. 3, is a spheroid, having for its material a quantity of prepared horse hair, covered with strong leather, sewed together so neatly as not to exhibit any appearance of a seam, and afterwards coated with several layers of strong varnish. The reader may observe that it has no passage through its interior, as in the globe pessary, fig. 2, and moreover that its form is an irregular spheroid. From these facts it may perhaps be inferred, that it is more especially adapted for aged females, whose uteri have ceased to furnish menstrual and other sexual secretions. For such persons the author can speak from extensive experience, that this variety of pessary is actually the best that has yet been introduced to the knowledge of the profession.

In fig. 1 of the same plate we have a representation of a common ring pessary made of hair, covered with leather, and strongly varnished. The reader well informed in these matters may probably observe that the aperture in this pessary presents a diameter of very nearly an inch. For women advanced in life and mothers of several children, the aperture, as represented in the figure, would form a cup, which would probably very conveniently afford the required support and repose to the vaginal portion of a prolapsing uterus. But in the case of a virgin uterus, or of one of small dimensions at its inferior extremity from any cause, the aperture in this specimen of a ring pessary should be considered as too large to suit the case; so large indeed as to expose the vaginal part of such a uterus to the risk of being strangulated by it.

In fig. 4 of the same plate, the reader is presented with a specimen of a soft pessary, especially adapted for a married woman functionally competent to bear children. It is of a size larger than might be expected to be required for the average of the cases here supposed. The distant and more bulky part of it, bounded by the periphery of its circle, consists of a steel ring, like that of a bunch of keys, coiled round with flat belts of soft carded wool and covered over with a piece of well-prepared and thickly-varnished calf-skin. The part intermediate between the ring portion of the instrument and its aperture, is a piece of stronger leather, with its smoother side upwards, insinuated between and stitched within the mutually-folded layers of the leather which covers the ring part of the pessary. The leather, therefore, which immediately surrounds the central

Fig. 1.*Fig. 2.**Fig. 3.**Fig. 4.**Fig. 5.*

aperture in the instrument, consists of only one layer, and is easily moveable up and down by the slightest pressure that may be applied to it in either direction. It would seem obvious that a pessary of this construction, provided it were perfectly well adjusted, could furnish but the slightest imaginable impediment, and probably not any at all that could be perceived to the practice of the rights of marriage. The instrument, it should be observed, is just as easily introduced as a pessary made of ivory, wood, or cork of the same form and size; and quite as easily adjusted as the greater number of instruments made on the same principle. It must, however, be confessed, that all ring pessaries are more difficult of adjustment, or rather perhaps less retentive of the position in which they are first put, than any of the globular or spheröid bodies proposed as supporters of the prolapsing uterus which we have already had occasion to refer to.

Some ingenious writers have undertaken the very difficult task of devising pessaries admitting of being introduced through the external orifice in comparatively small bulk; but afterwards capable of any required development proportioned to the demands of the cases proposed to be relieved by them. An instrument professed to possess these properties, is one which was strongly recommended to the attention of the profession at an early period of the last century by Dr. Thomas Simson, at that time Professor of Medicine in the University of St. Andrews. A figure of this instrument, copied from Dr. Simson's Paper, *Edinb. Medical Essays and Observations, etc.* edit. 4, vol. iii. p. 288. is given in pl. xi. B, fig. 3 of the present work. A B are tin plates covered over with oiled leather; c is a spring of japanned steel, of which the office is to cause a certain amount of divergence of the two plates A B from each other; EE are two hemispheres of cork sewed to the round plates of tin, and covered as the plates A B with oiled leather; F are waxed threads made to cross from one hemisphere of cork to the other, and left of such a length as to allow the spring c full play in separating the plates and corks; GG are two skeins of waxed thread passed through the ends of each plate, and secured from being drawn out by the knots at their extremities. When this instrument is to be introduced, the two plates are to be pressed close together, and the sphere of cork is to be put as high up in the vagina as is convenient, taking care to have the flat sides of the plates towards the right and left of the vagina. Whenever the fingers pressing the plates are removed, the spring pushes the plates and hemispheres away from each other, to press only on the sides of the vagina, without any danger of straitening the vagina or rectum. The cross threads now extended between the hemispheres, hinder the uterus or plicæ of the vagina from falling down, between the corks, so as to be in danger of being bruised, when the sides of the instrument are again pressed together in order to take it out. In the mean time, the secretions of the uterus and vagina are allowed to pass freely. The corks and plates covered with leather when pressed against the vagina by a spring, which need not be very strong, cannot bruise its coats much; and their being oiled preserves them from corrupting soon, the metal of the plates and japanning of the spring pre-

venting any bad consequences from rust. When this instrument is to be withdrawn, the plates are pressed together; or if it has been wholly lodged within the vagina, it is to be brought away by drawing the skeins of thread; and the patient can with little or no trouble introduce or remove it at pleasure.

Schwenke's pessary, of which a description is given in the *Leipsic Commentaries*, vol. xi. part i. p. 127, seems to the author to be an instrument constructed much upon the same principle as Simson's; without, however, being accompanied by any acknowledgment of obligation to an anterior inventor. "For the removal of these difficulties," observes Schwenke, "the author has invented another instrument, which admits of being easily introduced into the vagina, retained there without difficulty, and withdrawn at pleasure. It consists of a hollow silver cylinder, of the length of the vagina. Within this there is placed a screw, to which are attached four diverging pillars, each of which is finished off at its superior extremity by a knobbed or roundish capital. By screwing up the screw within the cylinder, these several pillars are made to approach each other, so as ultimately to reduce their united bulk to a volume sufficiently small to admit of the entire instrument being easily passed into the vagina. Its introduction having been effected, the screw is to be turned in the reverse direction; when the several pillars become again divergent from their fellows, each from all the rest. It is another part of the mechanism of this instrument, that the rounded capitals of the several pillars are mutually connected together by intermediate bands of waxed silk thread, so as to form, upon a proper adjustment of the instrument, a suitable couch or cradle for the support of the vaginal part of the uterus. To the end of the key part or handle of the screw, a small ring is recommended to be attached, for the purpose, when thought necessary, of fastening upon it a piece of tape, by which might be connected, at pleasure, the entire shaft of the instrument to any fixed point on the outside of the body." *Comment. de Reb. in Scient. Nat. et Medic. Gest. Lipsiæ, 1763.*

The reader may now perhaps feel himself competent to judge between the merits respectively of Schwenke and Simson. Both pessaries are obviously constructed on the principle of furnishing a secure cradle for the support of the prolapsing uterus, compatibly with a reducible bulk of instrument, for the object of its more easy introduction into the vagina. The only difference appears to be that the cradle is folded and expanded by the action of a screw in the one case, and by the management of a spring in the other. To both, there are the same manifest objections; viz. 1st, that they are nearly equally complicated in their mechanism; and 2dly, that certain parts of their materials are liable to be rapidly eroded by rust, and other parts to be as rapidly impregnated by offensive and putrifying animal fluids.

Of all the pessaries thus far submitted to the reader's attention, it may be observed that they have one common principle in their mode of application, viz. that of their being supported against the sides and upon the flooring of the pelvis; the latter being presumed to consist of the *ossa coccygis*, inferior and posterior

parietes of the vagina and the perineum. Of these several supporters of pessaries within the pelvic cavity, the author has always considered the perineum as the principal: and experience proves that in cases of disruption to any considerable extent of that tissue, no pessaries can be made available for their object without the addition of some new and extra means of support in substitution for the ruptured os externum and perineum. Instruments of this class must therefore be necessarily attached, by means of an intermediate apparatus, to fixed points on the outside of the body. Such an apparatus, together with some other devices not yet referred to, which have been employed as implements to sustain the uterus in its natural situation, will accordingly present themselves as the subject of a few additional remarks, when we come to treat of laceration of the perineum.

In the mean time, we have to proceed to the consideration of our first great duty in the management of *PROCIDENTIA* or the third and last degree of descent of the uterus, viz. that of its reduction.

When this form of malposition is only partial, as in the case represented in pl. x. B, fig. 1, or only nearly completed, as in fig. 3 of the same plate, of which indeed both are borrowed from the recently published Plates of Mad. Boivin and M. Dugès, the prolapsed organ frequently retires into the pelvis of its own accord, upon the subject of the case assuming the horizontal position. Or when that does not happen, the patient herself is able to effect its reduction very readily with her own fingers, or by a little gentle pressure, first to one part of the tumour then to another, applied by means of a piece of soft sponge. This is the practice most frequently adopted by women in the lower ranks of society, when they have the misfortune of becoming the subjects of this form of malposition of the uterus; contenting themselves for the remainder of whatever further treatment they may consider necessary, with simply wearing a napkin to keep the uterus within the body. In a certain proportion of cases even this precaution is not considered necessary. When the late Dr. John Sims was a student at Edinburgh, there was residing in that city a poor woman, who for many years had been the subject of a procidentia of the uterus, but who had not sustained any serious inconvenience from its malposition. She was a hard-working woman, and was in constant employment as a char-woman. See also the subject of Mr. Jas. Hill's case, who subsequently to her first confinement in the twentieth year of her age, was the subject, for many years, of procidentia uteri. "The uterus fell down as large as a man's fist. After the first prolapsus, the patient went immediately to bed, and put all up very easily. It continued so till the next time she attempted to walk, when it again dropped down as before. She took no medical advice on this occasion; but by the advice of a neighbour bandages were applied, with a view of keeping it up, but without effect. It always dropped down when she stood erect; and the bandages galled and fretted her so much that she threw them all away. It continued regularly to hang down all the day, and was put up every night; in which situation it remained till she got up next morning.

HER HEALTH WAS IN NO DEGREE IMPAIRED BY THIS AFFECTION ; and she felt no other inconvenience from it than what merely arose from its bulk." *Medic. and Philosoph. Comment.* vol. iv. p. 88. Mauriceau mentions a case of procidentia of the uterus of three years' duration. "I reduced," observes that excellent writer, "the uterus of a poor woman aged forty-eight, who had suffered from a troublesome descent of that organ, SINCE SHE HAD BEEN FIVE-AND-TWENTY YEARS OF AGE. When I saw her, the womb was larger than the head of a child at birth, it was completely fallen, and had not been reduced for three years." *Sur les Maladies des Femmes.* t. ii. obs. 171. See also two other cases by the same author, proving the same fact. *Tom.* ii. obs. 96, p. 79. But these cases are not to be considered as fair examples of the average results of procidentia of the uterus. The reader, on the contrary, will arrive at a more correct estimate of the general importance and occasional danger of this malposition in common with the other forms of descents of the womb, by a perusal, at his leisure, of the following essays and cases:—*Hippocrat. Edit. Foes. Lib. de Nat. Mulier.* cap. iv. p. 564 et cap. lxxv. p. 582. *De Morb. Mulier.* cap. xxxviii. p. 655 et cap. xl. p. 656, et *Lib. de Sterilit.* cap. xxviii. p. 687. *Roussett, de Part. Cæsar.* sect. iv. cap. 5 et 6. *Casp. Bauhin.* in *Append. ad Roussett,* p. iv. *Paræi lib.* xxiii. cap. 40 et 41, p. 798, etc. *J. Gwinther de Medic. Vet. et Nov. Comment.* i. *Dialog.* 8, p. 771. *Fernel. Physiolog. lib.* vii. cap. 2. *Patholog. lib.* vi. cap. 16. vol. ii. p. 202. *Forest. Observ. Medic. lib.* xxviii. obs. 35 et 36. *Th. Bartholin. Hist. Anat. Rar.* cent. iv. *Hist.* ii. p. 213. *Poterii Observ. et Curat.* cent. iii. cap. 91. p. 290. *D. J. Muralto. Ephemerid Germanic.* dec. ii. an. 1. p. 278. *D. Christ. Seliger. Ephem. Germ.* dec. ii. an. 1. p. 344. *D. Rosini Lentil. Ephem. Germ.* dec. ii. an. 2. p. 336. et p. 423. *Jacob. Webfer. Ephem. Germ.* dec. ii. an. 5. p. 306. *Wedel. Ephem. Germ.* dec. ii. an. 6. p. 181. *Halleri Disputat. Chirurg. Auct. Eilhard Reinick,* vol. iii. p. 585. *M. Wanters. Journal de Médecine,* tom. lv. p. 323. *Secretan.* tom. lviii. p. 337 et tom. lxi. p. 134.

In illustration of the different degrees of danger to be apprehended from the results of procidentia of the womb, it may suffice for the present to cite the two or three following sketches.

"I was lately called to a woman near this town, and found her in bed, and she gave me the following account of her case. Whilst assisting her husband to lift a great weight, she felt a lump fall out of her body. Immediately afterwards she sent for a midwife, who endeavoured to reduce it; but not being able to accomplish his object, advised her to send for me. Upon examination I found the uterus out of the os externum about the size of a large man's fist, hard, and the glands scirrhus, each having the appearance of a garden bean. The patient was low and faint, but had but little pain. As reduction was impracticable, I immediately directed emollient and discutient fomentations with poultices, AND AFTER SOME DAYS BLED HER IN SMALL QUANTITY, for she was too weak to bear the loss of much blood. Her body was kept open, and when restless with

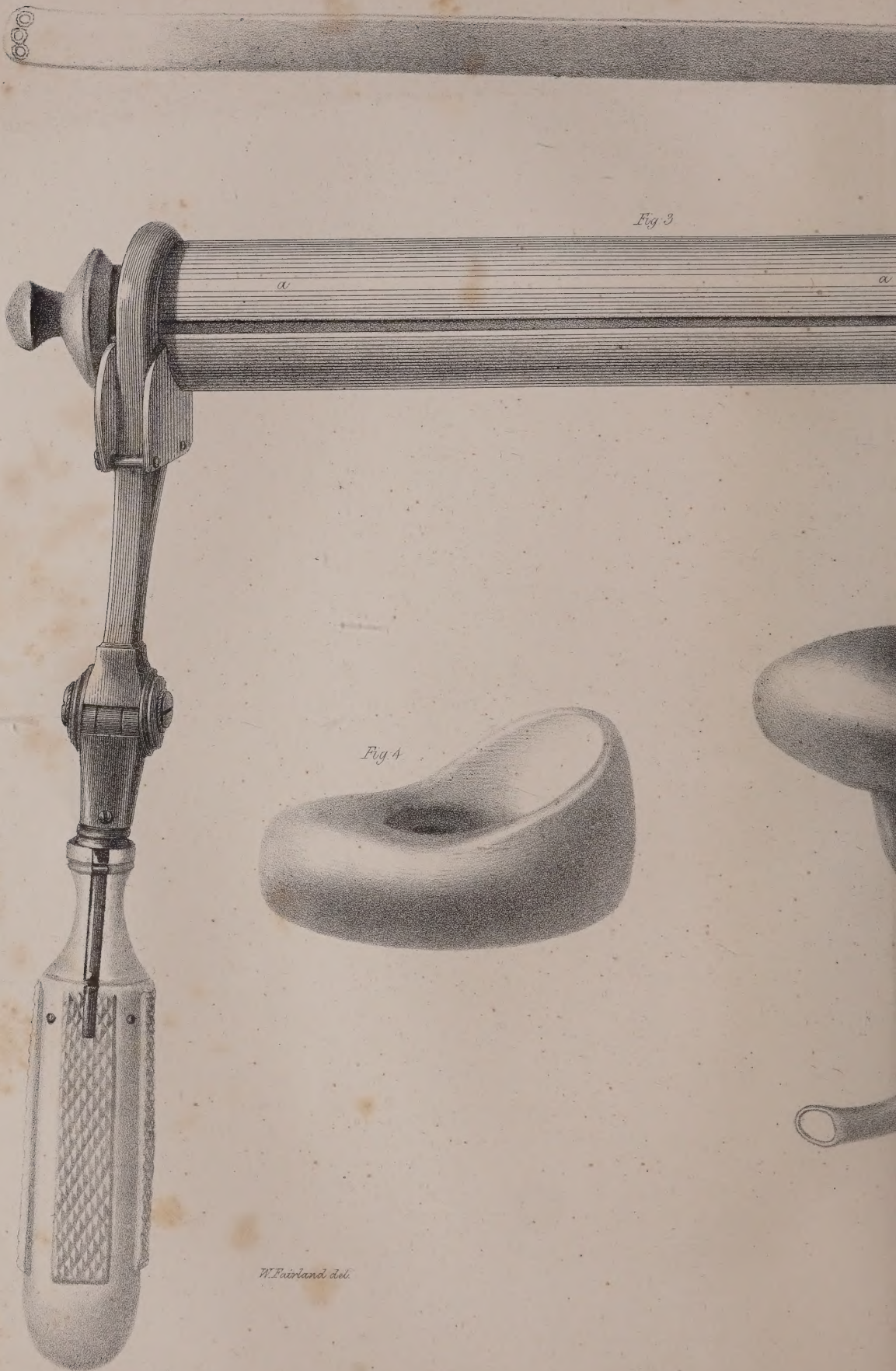


Fig 3

Fig 4

W. Fairland del.

Fig. 1.

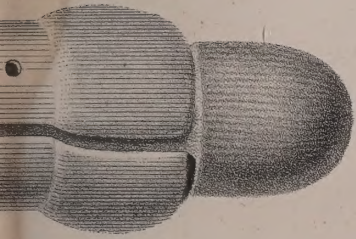
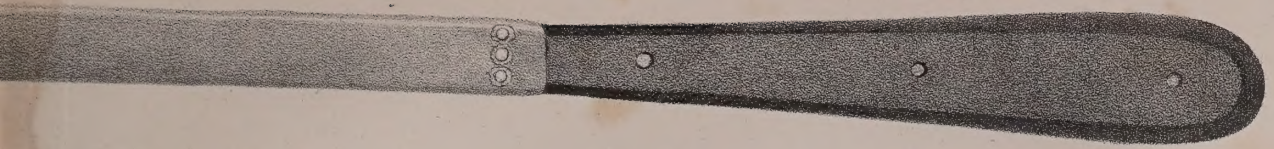


Fig. 2.

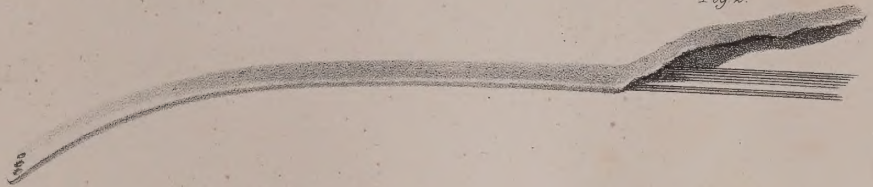


Fig. 5.

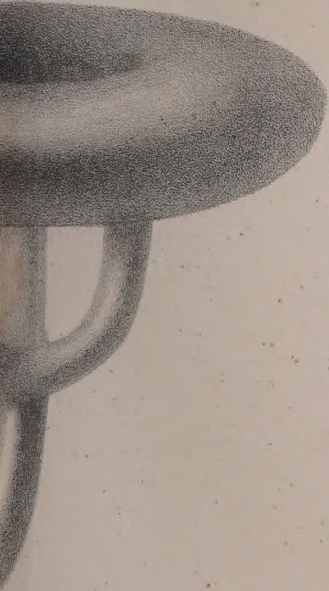


Fig. 6.

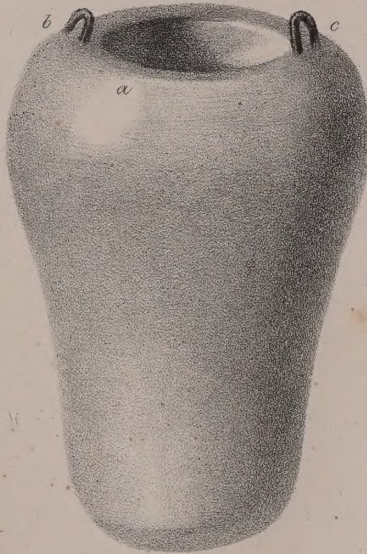


Fig. 7.



pain she was quieted with opiates. Notwithstanding which the tumour increased in size, and after three weeks discharged a thin ichor from its whole surface, and after the lapse of about three weeks more the patient died." Communicated by Mr. Oakley, of Birmingham, dated 1757. Smellie's Cases in Midwifery, collect. xlv. Supplement to case 2, vol. iii., p. 496, edit. 1764.

A middle-aged woman, the mother of several children, of a slender and delicate habit of body, having been exposed to many hardships by reason of her indigent circumstances, was after hard exercise taken with partial procidentia of the uterus. For want of proper assistance an inflammation and sphacelation of the fundus uteri succeeded, and after some days about the size of a Spanish dollar of that part of the uterus which was prolapsed without the vagina separated, upon which the inflammation subsided, and the woman soon became well without any help. About two years afterwards, being obliged to travel several hundred miles in a one-horse cart, the fatigue of so long a journey, with the violent jolting of the cart, brought on a complete procidentia uteri; which was followed by a violent inflammation and swelling of the same; upon which I was sent for. When I visited the patient I found her labouring under a burning fever, sickness at stomach, weakness and great pain in the small of the back. The prolapsed uterus swelled to the size of a large child's head, as black as a hat, of a cadaverous smell, and with every other mark of an incipient mortification; the poor woman in the mean time being extremely dejected and despairing of any relief. As her pulse was very small and feeble, and the sphacelation so far advanced, I judged it not advisable to bleed, but ordered the parts to be continually fomented with a strong decoction of bitter herbs; and I gave her large and frequently-repeated doses of nitrous julep with compound spirit of lavender in it. As she lived at a great distance from me nothing more was done for her. About three days after I saw her, a separation of the whole body of the uterus, which was now growing putrid, began to take place, and in two or three days more it entirely sloughed off from the sound vagina; upon which the pain and fever abated, and the patient recovered her health and strength. The last time I heard from her, which was several months after this affair happened, she was in perfect health." J. Elmer, M.D., Philadelphia, 1773. Medical and Physical Journal, vol. xviii. p. 344. Of this transatlantic case, published four-and-thirty years after its occurrence, the facts seem much too loosely stated to command our absolute conviction that it really was a case of procidentia and subsequent mortification and sloughing off of the uterus. See Dr. Merriman's criticism on it in the same volume of the Medical and Physical Journal, p. 419.

The issue of the following case published in the Ephem. Germanic. dec. ii., an. 1, p. 197, although somewhat loosely stated, gives it a much better title to practical attention and application than the more imposing one of Dr. Elmer's. It purports to have been a case of procidentia of the uterus and of the bladder. For some years it amounted only to a painful prolapsion without an actual procidentia of the womb; but after repeated labours it became aggravated, and the

prolapsed vagina inclosing the uterus, forming a protruding mass of a span in length and of two spans in circumference, began to hang down painfully between the patient's thighs. At length life itself became a burden. All medical assistance proved useless, and amputation was advised; but the operation proved fatal. By a careful post-mortem examination of the parts removed, and of those which yet remained within the pelvis, it was satisfactorily proved that the protruding tumour had really been the uterus and bladder, together with an entire procidentia and inversion of the vagina.

The important practical lesson to be derived from the issue of the above case, although the records of our profession are not absolutely without examples of opposite results, see Webler's and Wolff's cases, *Ephem. Germanic. dec. ii., an. 7, p. 99, et an. 9, p. 160*, should be a deep conviction of the extreme and paramount danger of the formidable and fatal operation to which it refers. The author entertains indeed great doubt, whether under any circumstances, the amputation of the organs usually forming the protruding tumours now under consideration, could consistently with strict professional morals be really made the subject of serious deliberation in consultation. At all events, the question could not for one moment be entertained till after the entire failure of the ordinary mode of treatment as propounded in our first and second indications; viz. that of reducing the protruded organ to its proper situation, in cases requiring the aid of art for that purpose; and then that of sustaining it in that situation by suitable mechanical expedients, as long as the employment of such means might be deemed necessary to prevent relapse. It seems scarcely possible to suppose the absolute impracticability of reducing a precipitated uterus, such as we are now treating of, excepting in a case already become imminently dangerous through neglect. The following may be quoted as one of considerable difficulty in the accomplishment of that duty, and yet by cautious management, and cool but determined perseverance, the reduction was at length happily effected.

A Hebrew lady of advanced age had been for many years the subject of a procidentia of the uterus, which she had always been able to reduce herself, and to keep retained within the pelvis by means of a napkin. On the occasion now to be referred to, the tumour had acquired a more than ordinary volume, in consequence of its having been permitted to remain suspended for a longer time than usual, whilst the old lady indulged to great excess in the pleasures of a prolonged festive dance with her grand-children and other young people of the same and subsequent generations. When she retired to bed she found that she could not reduce her protruded uterus, as she had been accustomed to do; nor could she succeed, after many attempts, in emptying the bladder. The peculiarity of her case was such as to induce her to delay to send for her medical attendant, who was Mr. Cole, of Covent-Garden, until she could no longer endure the severity of her sufferings. Very soon afterwards, which was either the third or fourth day after the dance, Mr. Cole requested the author to be consulted. The tumour was that time of prodigious size, and of a high inflam-

matory colour, very hot, and painful to the touch. There was also considerable intumescence of the hypogastrium, proving that the greater part of the bladder must yet have the hypogastrium for its locality. In the present state of things there appeared no chance of being able to relieve the over-distention of the bladder; such was the extreme tenderness of the parts to be dealt with in order to accomplish that object. It was agreed therefore to exhibit a full dose of opium with calomel, and to apply some two dozens of leeches to the tumour, and afterwards assiduously to foment it with flannels wrung out of hot water; and in the course of a few hours to meet again with a view to ulterior measures. During the next visit the condition of the patient was obviously greatly improved. The tumour, although yet as large as a well-grown foetal head at the full period of gestation, was nevertheless greatly reduced and infinitely less painful to the touch. The tongue however was dry and dark-coloured, and the pulse much excited. After some difficulty and great humouring of two or three varieties of catheters, for the urethra was much diverted from its natural situation, the greater part of the contents of the bladder was evacuated. An attempt was then made to reduce the uterus by the application of a moderately firm bearing upon different parts of it; but chiefly on such parts and in such a direction as should best tell on the axis of the outlet of the pelvis. This pressure was continued to be applied, for a considerable length of time, without the least apparent promise of eventual success. Knowing, however, that it had only been three or four days since the uterus had effected its descent through the passage by which it was then being attempted to be reduced; and calling to his recollection the very gradual and almost imperceptible manner in which the foetal head is moulded in certain cases of difficult labour to suit the form and in some degree the dimensions of the parturient passage, the author armed himself with the resolution to persist, WITH THE UTMOST TENDERNESS AND CAUTION, but nevertheless to persist for some time longer in the use of the upward bearing pressure, which, with the approbation of his friend Mr. Cole, he determined if possible to make available to his object. The vaginal covering of the uterus was the whole of this time still bleeding in several places from the leech-bites; whilst the sponge, the immediate instrument of the pressure which was applied to the prolapsed tumour, being charged from time to time with new supplies of hot water, might be presumed to act in some degree usefully as a fomentation to the phlogosed surfaces. The bearing pressure was alternately remitted for a few seconds, and again reapplied, imitatively of the alternate bearing and suspension of action of the natural throes of parturition. In the course of about an hour, less or more, for the time was not minuted, the almost despaired-of reduction was at length audibly effected; and the good old lady soon afterwards recovered her former state of health. But in a case like this, even if the reduction had not been fortunately effected on the first occasion of its being tried, then indeed there might have been no good ground to despair of eventual success: and, moreover, it might prove of no fatal consequence were reduction not effected at all, provided we might be able to ensure

for our patient a restoration of the power of emptying her bladder at pleasure. Rather, however, than expose the subject of a case, under these circumstances, of great intumescence of the prolapsed organs, to the danger of their being strangulated, or the bladder to rupture from over-distention, neither of which could be prevented we may suppose by the means already adverted to; we should THEN indeed be bound, without incurring the additional danger which might arise from delay, to relieve the perilous pressure, as we feel ourselves bound to do in other cases of strangulation, by making an incision through the more binding portion, or even the whole, of the strangulating ring. The locality of this operation, in a case such as we have now before us, would of course be the inferior fourchette of the vulva continuously, to the required distance, along the anterior perineum and the posterior part of the orifice of the vagina. The comparative relaxation of the parts concerned, which would probably immediately result from an operation of this kind, could scarcely fail to make it practicable to a practitioner of moderate dexterity to introduce the catheter, and probably soon afterwards to effect the reduction of the uterus. The incised wound thus inflicted on the perineum might reasonably be expected to heal by the first intention, or if not so very quickly, then by a rapid process of incarnation, which would almost completely make up the breach in the course of two or three weeks; whilst that through the corresponding part of the vagina might conduce, as analogous injuries inflicted on its tissue have already actually conducted, to prevent its future delapsion and inversion. This latter statement might seem to require some positive illustration by an appeal to facts.

“A woman of about forty years of age was attended in her last labour by an ignorant midwife. The placenta was withdrawn in such a manner as immediately to be followed by a profuse hæmorrhage, and soon after by a prolapsion of the vagina. In order to cure the latter evil, she had recourse to the use of a pessary made with a piece of wood, in which there was a fissure, which however she filled up with wax, and then covered the whole instrument with the same material. This implement the poor woman managed to wear for eleven years, but not without sustaining the greatest inconvenience from its use. Her distress at length became so great, that the celebrated Schultzer was requested to see her; when he found her suffering from a very painful tumour which occupied the perineum, and extended to the vagina and rectum, so as indeed to implicate all the tissues in that neighbourhood. There was present moreover a symptomatic fever of considerable intensity. Suspecting that the pessary was the cause of all the mischief, it was forthwith attempted to be removed; which, however, from want of sufficient room for the operation and on account of the extreme sensibility of the parts, could not be accomplished. The tumour soon after suppurated, and furnished a great quantity of a purulent discharge from the vagina; after which another attempt was made to extract the pessary, which happily proved more successful than the former. M. Schultzer found that a part of it had become separated from the rest, and that the points, possibly of

both parts, had irritated the tissues which they encroached upon, in such a manner as to lay the foundation of the tumour already described. After the contents of the tumour were discharged, an aperture was discovered to intercommunicate between the rectal and vaginal passages of four fingers breadth in extent, and the surgeon perceived that there was no remedy for this state of things without an operation. He therefore resolved to make an incision into the parietes of the now emptied tumour, ON THE PRINCIPLE OF THE OPERATION USUALLY PERFORMED FOR THE RELIEF OF FISTULA IN ANO, lest the matter should open for itself new routes and produce fistulous sinuosities. The wound was treated in the same manner as is usual in the management of cases, similarly treated, of fistula in ano. In six weeks the cure was complete, and the excrements were again discharged by their proper passage; AND SOON AFTERWARDS, by the use of lint dipped in a decoction of astringent herbs in pontac applied to the orifice of the uterus, "THE VAGINA WAS COMPLETELY REDUCED." The effect here imputed to the restraining virtues of the bitter herbs and the pontac, the English reader will no doubt more correctly attribute to the reduced diameter of the vagina consequent upon, and as the effect of, its previous extensive solution of continuity, and its subsequent contraction during the agency of the restorative process of cicatrization. *Comment. de Reb. in Scient. Natural et Med. Gestis*, vol. iv. p. 664. Lipsiæ, 1755.

A married woman, after experiencing a severe labour in the twenty-seventh year of her age, was induced at an early period of her subsequent recovery to offer to her husband, who was a tanner, a helping hand to lift a heavy weight of lime, in consequence of which she immediately became the subject of a procidentia of the uterus. In some measure to obviate the effects of this accident, she introduced into her vagina a large globe of wax, weighing six ounces and two drams, which she retained there for nine years. At length it became troublesome to her, on account of its great weight, and she withdrew it, and introduced another pessary made of copper weighing two ounces, and which she retained for eighteen years. It then corroded, in consequence of its exposure to the acrimony of the urine, and became exceedingly irritating to the tissues with which it came in contact, and ultimately produced extensive ulceration, followed by a profuse sanio-purulent discharge. The reporter of the case was applied to and withdrew the pessary. After a brief use of a great farrago of lotions and liniments, the patient attained to an excellent state of health, and was never after the subject of a procidentia of her womb; an effect, no doubt, as in the former case, to be imputed to the narrowed capacity of her vagina, and the result of the same restorative process of cicatrization. *Ephem. Germanic. dec. ii. an. 5.* p. 103. Norimb. 1686.

We find recorded yet one more German example of an injury inflicted upon the substance of the prolapsing tumour becoming subsequently the means of a perfect cure of prolapsion of that organ. The case is reported in the first volume

of the Transactions of the Philosophico-Medical Society of Hesse, p. 144. Francfort, 1771. The reporter of the case was a professional gentleman of the name of Berchermann. It was shortly afterwards communicated to the English public in a short critical sketch of its history, which the reader may find inserted in the second volume, p. 43, of the Medical Commentaries. "A practice no less courageous than uncommon, seems to have given rise to the Dissertation now before us. A woman of singular fortitude, about sixty years of age, was afflicted with prolapsus uteri. After trying many remedies in vain, and being tired out with the continuance of her complaint, she at length cut into the substance of the uterus, with a common kitchen-knife. A considerable hæmorrhage ensued; after which the uterus gradually contracted, and she had neither a return of the prolapsus, nor was she afflicted with any other untoward symptom. Having boasted of her success, many women in the neighbourhood afflicted with the same complaint applied for her assistance, and by a similar operation were effectually cured." The reporter of the case then proceeds to propound his own view of the principle or modus operandi of the treatment, the striking peculiarity and efficiency of which it was the object of his paper to make public. His notion seems, that the effect of the treatment to be accounted for, should be imputed to a diminution of the size and weight of the uterus, which he assumes must necessarily follow the great loss of blood incident to the operation. M. Berchermann applies the same explanation to account for the success of the same practice IN CASES OF PROLAPSION OF THE VAGINA. The reader will probably be able to discover a more satisfactory principle to which to impute the success of the poor woman's practice on herself and on the others, as alluded to by the author of the paper, when he shall have perused the following account of "A PROLAPSUS UTERI CURED BY A NEW OPERATION." The very ingenious operation here referred to was devised and performed by two Englishmen on the suggestion of an actually acknowledged principle of the animal economy. The history of the case in question is published by DR. MARSHALL HALL in the ninth volume of the London Medical Gazette, p. 269.

"The subject of the case I am about to detail, was a poor woman whose bread depended upon the labour of her hands. Her sufferings from the prolapsed state of the uterus were often extreme, and she was frequently disabled from engaging in her various occupations. For several years there had been complete prolapsion of the uterus: to this were also conjoined a partial descent of the bladder at the anterior, and of the rectum, formed into a pouch, at the posterior part of this prolapsus. The os uteri protruded at least two inches beyond the os externum. It occurred to me that if the canal of the vagina could be considerably, permanently, and firmly reduced in its diameter, the uterus would be supported in its place and prevented from resuming its prolapsed position; and that this might be done by removing a portion of its mucous membrane along the anterior part, and by bringing and retaining the denuded surfaces in contact

by successive deep sutures until they should unite by cicatrix. This operation was performed by Mr. Heming, of Kentish-town. The uterus being protruded as much as possible by the efforts of the patient, two parallel incisions were made through the mucous membrane from the sides of the os uteri along the course of the protruded vagina to the os externum. The portion of this membrane situated between these incisions was then removed, leaving a space of one inch and a half in breadth, and of the entire length of the vagina, completely denuded. A suture was then inserted near the os uteri. This suture being tightened was obviously pushed upwards. A second, a third, and other ligatures were then inserted in the same manner at short intervals to the os externum. The patient was directed to keep quiet in bed. The bowels had been opened. An opiate was given. No pain nor fever followed. In four or five weeks the denuded parts had firmly united, and shortly afterwards the ligatures were come away.

On examination six, eight, and ten weeks after the operation, the os uteri could be just felt in situ by the finger passed through the vagina. The vagina was firmly contracted along its whole course. The prolapsus of the uterus was thus completely remedied. The descent of the pouch of the rectum was lessened. 14, Manchester-square, Nov. 19, 1831. P.S. The principle upon which this case was treated is illustrated by a fact detailed to me by Dr. Holland, of Queen-street, May-fair. A pessary introduced into the vagina of a young person to support the uterus, which was subject to be completely relapsed, induced great inflammation. This was followed by such firm contraction of the vagina that the uterus ever afterwards remained in its proper situation."

The author is indebted to the kindness of Mr. Heming for some recent information on the subject of the above interesting case. That gentleman has seen his former patient within the present month, October, 1833; and he reports that he found her much in the same state as she was left in, subsequently to the operation, as described by Dr. Marshall Hall at the conclusion of his paper; the uterine prolapsion having never returned; but the pouching of the rectum still to be perceived, although greatly reduced in volume by the operation.

Having attentively deliberated on the circumstances and results of the case just cited, as also on the analogous facts developed respectively in the three preceding histories, the author feels himself entitled to hope that surgery must shortly acquire a considerable accession of power over the distressing lesions of the uterus and its appendages, which form the subject of the present article. Under this impression he ventures to submit the few following hints or suggestions for the consideration of such of his readers as may feel disposed and have the opportunity to make further trials of the mode of treatment to which they refer.

1. He would first observe that the practice suggested by his friends' case, cannot be considered an eligible one for the treatment of a child-bearing woman; inasmuch as any considerable contractedness of the vagina which the abstraction

of a large portion of its substance might be expected to produce, and which in practice it might not prove an easy thing to confine within any assignable limits, could not fail to render difficult and perhaps extremely dangerous her first subsequent parturition. Experience and more correct knowledge of the extent of consequences to be expected from such an operation, than we now possess, may possibly eventually lead to a relaxation of the principle on which the practice here suggested professes to be founded. Dr. Hall's and Mr. Heming's patient was about fifty years of age when she consented to be operated upon.

2. In the present state of our knowledge, the same suggestion relatively to the age of patients should be extended and made applicable to all other operations or modes of treatment, of which the result must, or very probably might be, an unlimitable contractedness of the vaginal passage.

3. Should the application of the rule here suggested in any cases whatever be left discretionary? It seems, at all events, a morally self-evident proposition, that no woman should be induced to become the subject of a mutilating operation by which she would be disqualified for the function of procreation, without being previously distinctly informed of the probability of such an issue.

4. Is it not to be presumed that experience may eventually indicate some new variety or modification of the operation suggested by Dr. Hall which might suffice to remedy the evil intended to be removed by it, and yet without being followed by such a degree of contractedness of the vagina as might be incompatible with perfectly safe parturition? The operation of self-surgery performed by the subject of M. Berchermann's narrative amounted only to an incision, probably indeed a deep one, into the substance of the uterus; and such were also the several operations which she is stated to have performed upon her neighbours; and yet we are informed that they were all EFFECTUALLY cured.

5. Had a similar or a less portion of mucous membrane than was removed by Mr. Heming's operation from the anterior surface of the prolapsed tumour been also removed from its posterior surface, is there reason to suppose that the pouching of the rectum behind might have been remedied as completely as the anterior protrusion?

6. In the case reported to Dr. Marshall Hall by Dr. Holland of May-Fair, the probable effect of the accidental irritation consequent on the use of the pessary was a cohesion of more or less extent of the opposite surfaces of the vagina. Could the extent of such cohesion be made limitable to any given dimensions, and to given degrees of tenacity of connexion of the one surface to the other; it is manifest that on this principle a sufficient amount of support might be obtained to sustain the prolapsing uterus, and yet so much of separableness of the one surface from the other as might ensure their giving way, when parturition might bring its powers to bear upon them. The author conceives that both these might be made attainable. It is obvious, however, that the after-treatment in a case of this description would require to be managed with great intelligence and discretion. In cases of cohesion of the labial surfaces of the pudenda in children,

from the effects of careless nursing, the author has had many opportunities of observing that the forcible separation of them is usually very easily effected, and that the disruption is made at a nearly equal expense of encroachment into the substance of both tissues; that encroachment having been, in all the cases of this kind that he has ever seen, extremely trifling.

7. Actual procidentia might no doubt be often remedied by the induction of adhesive inflammation of the labial surfaces and those of the parts which more immediately form the mere orifice of the vagina. The idea of this treatment occurred to the author about fifteen years ago, during an attendance upon an old lady who had for twenty-five years been the subject of procidentia of the uterus complicated with laceration of the perineum, and whose husband, on account of the distressing loathsomeness of her situation, had long ceased to cohabit with her. She had, for the greater part of the time which had elapsed since her misfortune, worn a pessary attached to a cumbersome apparatus, hereafter to be described, which occasioned no small part of her distress. The use of the vagina as a connubial organ was already become totally lost to her. What harm, then, could have arisen from hermetically sealing up, by inducing a mutual cohesion of its parietes, the whole of the inferior portion of this vagina; leaving only a sufficient aperture, through a part of the new wall to be thrown across it, to give exit to the uterine discharges which might require to be transmitted through it? Upon an impartial representation of the risk as well as of the advantages which might arise from the operation, the old lady so far made up her mind to submit to it, that she concurred in the appointment of a particular day for its being performed. The author, however, had not left her many hours before she began to waver in her resolution; and early on the following day he received a note from her, intimating her desire and intention of taking a little longer time to think upon the subject, and again FINALLY TO MAKE UP HER MIND UPON IT. The reader need scarcely be informed that the operation was never performed. Had it been performed and well succeeded, it would probably have placed the poor patient in a situation of great comparative comfort; and if it had been performed, IT PROBABLY WOULD HAVE SUCCEEDED, since the labial surfaces had more than once shown a mutual disposition for coalescence. The two lateral remains of the perineum, including their corresponding portions of what had been vagina, would have required a pretty extensive levelling of their inequalities. In cases of extensive rupture of the perineum, without the accompaniment of protrusion of the uterus, this same operation will probably obtain some further notice in the sequel under a future article.

8. If the operation of the German female as recorded by Berchermann might be depended upon as likely to succeed in the greater number of cases, it would seem upon the whole a preferable one to that of Dr. Marshall Hall and Mr. Heming; inasmuch as less actual mutilation must be incurred by it, and consequently less interference might be expected to arise from it with the required

dimensions of the vaginal passage in prospective reference to parturition. But we have heard nothing of the German operation of late years. The author is indeed not aware of its ever having been recognised even in Germany by regular practitioners; nor does he know whether this neglect of it has arisen from its failure in any or in many cases in the hands of empirics, or from want of courage, or perhaps of opportunity, on the part of the profession in that country, to give it an adequate trial. If we suppose the success of the English operation to be essentially ascribable to the great reduction of the diameter of the vagina, which it is obviously more calculated to promote than the other, then is it, and for that reason, a much preferable operation to the German one? But are we certain that this is the only circumstance to which we should ascribe its efficacy? If this be supposed, then how must we account for the remarkable efficiency as stated by Berchermann of the German operation? Protrusion of the uterus does not, and cannot to any great extent, take place without being accompanied by a proportional inversion of the vagina. Now the vagina cannot become inverted throughout nearly its whole extent, which is actually the case in the worst forms of procidentia, and in all cases proportionally to the amount of the lesion sustained, without incurring either a total or at least a partial solution of its connexion with the lateral parietes of the pelvis; or in other words without being productive of much lesion, either by disruption or prodigious elongation, of the intermediate cellular tissue. Now, may we not suppose that the infliction of so much injury of structure as we find reported to have been sustained in both of the above operations, must have been to a certain amount attended by an extension of the inflammation of the part incised to the more immediately-adjointing cellular tissue? If we may suppose this, then may we also presume that the subsequent retention of the uterus in its proper situation might also in part be ascribed to the rejunction of the lateral surfaces of the vagina exteriorly to its proper original locality relatively to the sides of the pelvis. Should this view of the subject be admitted as in any considerable degree probable, as a ground of reasoning, for the author does not feel himself entitled to assume it as a fact, then perhaps a better mode, or rather a better place for performing the operation, might possibly be selected, than was adopted either by the daring empiric of Germany, or by the regularly-educated and accomplished surgeon of this country, who was the operator on the subject of the English case, under the direction of his scientific friend Dr. Marshall Hall. If he might therefore be permitted, without being supposed to entertain any thing approaching to dissatisfaction with the highly satisfactory result of his countrymen's operation, to suggest any modifications of it for the adoption of future operators; they would be, 1st, the selection of the lateral parietes of the protruding tumour for the locality of their incisions; and 2ndly, the substitution of merely two longitudinal incisions, of depth sufficient to penetrate beyond the mucous membrane of the vagina, and very nearly through the entire substance of each of its lateral parietes, for the removal of an extensive portion

of its mucous membrane; or, 3dly, the removal of narrower slips of the same membrane from either side of the vagina, without any subsequent use of ligatures to bring and keep together the opposite edges of the wounds thus inflicted; the diminution of diameter of the vaginal tube to be totally intrusted to the ordinary agency of the process of cicatrization. In cases of more confirmed procidentia, it might not perhaps appear an unreasonable proposition to make an incision throughout the whole substance of each lateral walling of the vagina, and to some distance beyond, so as to wound the cellular membrane intermediate between it and the lateral parietes of the pelvis. This part of the operation would of course have to be performed subsequently to the reduction of the uterus. Its precise locality should be about an inch or an inch and a half below the orifice of the womb, and from thence downwards, also, about an inch or an inch and a half, through each lateral walling of the vagina, where no important artery could be expected to be encountered. A concealed bistouri would pretty obviously present itself as the proper instrument for this part of the operation. The probable amount of hæmorrhage which might be expected to follow an operation of this kind would speedily declare itself after the infliction of the first incision. If amounting to several ounces, it might seem proper to charge the vagina with a piece of sponge, of convenient size and form, to absorb pretty speedily the blood which the incision might furnish, so as to prevent its escape in any great quantity into the extra-vaginal cellular tissue. On the cessation of the hæmorrhage consequent upon the first incision, it might probably become a subject of deliberation whether or not it were expedient immediately to proceed to complete the operation, by making a corresponding incision through the other side of the vagina, or to adjourn it to a future opportunity. This point being determined and acted upon, the after-treatment should have for its objects, first, the unfailing retention of the uterus in its proper place during a period of at least five or six weeks after the operation; 2ndly, the insurance if possible of a restored connexion, by mutual cohesion of their respective tissues, between the lateral parietes of the vagina externally, and the corresponding surfaces of the pelvis; and, 3rdly, a vigorous cicatrization of the wound or wounds supposed to have been inflicted. For the attainment of the first of these objects, not only should the patient maintain unremittingly the horizontal position during the whole period of the convalescence, but the uterus might also require to be kept up by a pessary which should ensure its perfect retention in its proper place. The best pessary for the purposes of such an occasion would be a piece of fine sponge nicely cupped on its superior surface, so as conveniently to receive and to sustain the vaginal part of the uterus. To this pessary should be attached a thinnish rod of whalebone of given length, which might admit of its being firmly fixed by means of an immoveable apparatus, or a part of the dress, to the outside of the pelvis. How far any portion of such a pessary should be made to bear against the wounded sides of the vagina, would of course mainly depend upon the ope-

rator's precise intention as to the amount of inflammatory excitement of the parts wounded, which he might wish to produce and keep up. Immediately after the operation, it has been already stated that a piece of sponge of ample size should be passed up into the vagina, to effect the absorption of all or the greater part of the blood which might escape from the incised surfaces. But it is obvious that a body of such a size, as in the circumstances of the case supposed might be required in the first instance to be introduced, should be again withdrawn after the lapse of a few hours, lest it might have the effect of keeping the wounded surfaces too long asunder, and so perhaps materially interfere with their wished-for contraction and cicatrization. On the other hand, a more moderate degree of pressure applied to and kept up against the parts in question by a piece of sponge of smaller dimensions, and at the same time well adapted as to its form, might possibly very essentially promote the re-adhesion of the lateral surfaces of the vagina to the corresponding internal lateral surfaces of the pelvis.

To this special mode of operating it might perhaps be stated in objection, that it might very probably be followed by the effusion of so much blood into the cellular membrane, as should be expected to lay the foundation of dangerous extra-vaginal abscesses; and without much precaution and good management in the use of the sponge both immediately and for some time after the proposed incision or incisions shall have been made, it seems indeed very possible that such an evil might very plausibly and very justly be anticipated. But with the due precaution and good management here supposed, it seems to the author more probable that, if not effectually prevented, any effusion into the cellular membrane which might take place, might be so limited and modified, as to be made efficiently subservient to the general intention of the operation. In the event however of this view of the danger being thought to be under-rated, it might not seem difficult to suggest another mode of performing the operation than the one just proposed, of making one or more actual incisions through the lateral parietes of the vagina; one by which hæmorrhage might be almost entirely avoided, but which might nevertheless be expected to produce sufficient inflammation to ensure the re-adhesion of the parietes of the vagina to their naturally contiguous tissues within the pelvis. Instead therefore of a continuous incision or incisions through the lateral parietes of the vagina, that is one, at most, through either side; the author's idea of another operation to be substituted, is that of passing through the same lateral parietes of the vagina, as in the case of the proposed incision or incisions, a series or cluster of acu-puncturations sufficiently far into the cellular membrane to ensure the effect wished to be obtained from the operation. A proper instrument for this purpose might be a very simple one, made on a principle somewhat analogous to that of the common instrument for cupping, only not armed with lancets, but with pins or needles, and those not calculated to make incisions but punctures, which should be carried directly through and deeply into the cellular membrane beyond the lateral

parietes of the vagina. An operation of this kind could not be expected to be followed by any formidable discharge of blood. Its locality would be such as could expose no artery nor erectile tissue of any consequence to the chance of being wounded. Having for its object not so much to produce contraction of the vagina as re-adhesion of its lateral parietes to the corresponding surfaces of the pelvis, it is obvious that it might very conveniently admit of the use of a much larger sponge pessary than in the other case for the purpose of keeping the surfaces and tissues to be re-connected in firm mutual apposition, until their mutual adhesion should be effected.

Should an operation of this kind be ever fairly tried and prove successful, it seems to the author probable, that its principle might be advantageously extended and made applicable to certain varieties of cases of intestinal descents, and especially to those of entero-vaginal and entero-perineal hernia. See pp. 158 and 185. The reader will recollect that it was a favourite practice with Rhoo-nhuysen in simple procidentia of the vagina to remove the whole of the prolapsing tumour by abscision of the protruding part. See p. 157.

Might the operation for fistula in ano be admitted as a plausible mode of treatment for cases of procidentia uteri or for any entero-vaginal protrusions? The question is especially submitted to experienced operative surgeons. Under the circumstances of that mode of operation it is to be observed that there would be an equal opportunity, as in that by acu-puncture, of keeping the surfaces to be re-connected in mutual apposition, by means of a sufficiently large sponge pessary introduced into the vagina.

OF ANTEVERSION OF THE UNIMPREGNATED UTERUS.—The first notice of this malposition of the uterus was given to the public by Levret in 1773, in a second communication on descents of the uterus, published in the old French *Journal de Médecine*, tom. xl. p. 269; in which the writer professes to treat of “A PARTICULAR DISPLACEMENT OF THE UTERUS NOT PREVIOUSLY SPOKEN OF BY AUTHORS.” The fact of its possibility was discovered by a post-mortem examination of the body of a woman who had died the victim of an operation for the removal of a supposed encysted stone in the bladder. On examination after death of the parts within the pelvis, it distinctly appeared that there was no disease of the bladder, and that the actual cause of the patient’s malady had been the displacement of the uterus under consideration. The brief history of that remarkable case was, that its subject, who was thirty years of age, had never been properly regular as to her catamenial function; that about ten years before her death she had sustained a violent fall, WHEN SHE CAME DOWN ON HER KNEES, after which she had never been able to empty the bladder nor the rectum without great difficulty; and that although she never had had any children, she had often presented the appearance of an abdominal fulness similar to that of pregnancy. The particulars of name and date are not supplied by M. Levret in his

sketch of the above case; but in respect to the latter, it seems certain that it had occurred at least thirty years before his publication of it in the essay of which it forms a part; as will appear from a reference made to it by the writer, in the report of another case of the same uterine malposition of which the date is given with sufficient accuracy. "In the year 1743, I was summoned to attend professionally a woman aged fifty years; who informed me that she had borne many children, without having sustained any particular inconvenience during her confinements; but that after the birth of her youngest child, which had taken place about ten years before I was consulted in her case, she had been the subject of great derangement of the catamenial function, and of profuse fluor albus, till within about a year of the time I saw her; that during the twelve months immediately preceding she had been much distressed with a dull pain in the hypogastrium, accompanied by an annoying sense of weight about the fundament and posterior parts of the pelvis, which were greatly exasperated when efforts were made use of to empty the contents of the bladder and rectum; that these evacuations were often effected with great pain and difficulty; and that, especially of late, the urine had become very hot and irritating to her, sometimes glairy and not unfrequently much charged with sabulous sediment. The region of the bladder was in fact tense and very painful, as were also the parts towards each groin, where the patient said she felt a sensation as of two tightly-stretched cords which obliged her when in the horizontal position to draw up her lower extremities towards the abdomen, and when seated to incline her body inconveniently forward. When she assumed a standing position, she further stated she was apt to feel a heavy body AS IF FALLING DOWN WITHIN HER BLADDER, which at the same time that it occasioned a desire to make water, deprived her of the power of obeying the call; but that when she lay down again she felt the same body retire to its former situation, after which she could evacuate the contents of the bladder with less difficulty. All these circumstances had induced M. Soumain, who was in previous attendance on the patient, to suppose that the case must have been one of encysted stone in the bladder. Under this impression he had sounded the bladder. This he did in the first instance in the position of the patient usually preferred for this duty, viz. that of lying on her back, WHEN HE FOUND NOTHING. He then desired her to place herself in the position of kneeling, the catheter being allowed to remain during this movement undisturbed. In that position of the patient's trunk he was able immediately to recognise what he supposed to be an adherent fleshy excrescence, which had the effect of resisting the further progress of the sound. He consequently plausibly enough concluded that the cause of all the symptoms was the presence of the supposed excrescence within the cavity of the bladder." The above account was communicated to M. Levret during his first interview in consultation with M. Soumain, when its several facts brought immediately into his recollection the parallel history of the case of his former patient. When at the

request of M. Levret the other gentleman made examination per vaginam, which he had not thought it expedient to make before, he found that he could not reach the orifice of the uterus. Afterwards, M. Levret himself made a similar attempt with not much better success; for it was not without the greatest difficulty that he could reach even unsatisfactorily the part he sought. On examining by the rectum, however, the vaginal part of the uterus was found pretty firmly bearing against the hollow of the sacrum; and upon applying pressure to it, of course indirectly through the rectum, the patient felt herself strongly excited to the desire of voiding the contents of her bladder. These facts having been duly ascertained and verified, it was determined, with the patient's permission, to pass up a pessary into the vagina; which, indeed, she subsequently wore with so much advantage, that in the course of a very short time afterwards she was able to leave Paris, which she had visited only on account of her complaint. After the lapse of some weeks subsequently to her return to the country she wrote to her surgeons at Paris, to inform them that she considered the disorder of her bladder quite cured, but that she was much incommoded by a troublesome fluor albus, which, she stated, had previously left her, in common and about the same time with her menses, which had finally ceased about a year before. The leucorrheal discharge was, therefore, now supposed to be occasioned by the pessary; and by the persuasion of some of the patient's friends, who entertained that opinion, she was too easily induced to withdraw it. Her vesical symptoms again returning, she found herself obliged to revisit Paris in order to have her pessary replaced. She was again as completely relieved by that useful instrument as she had been on the former occasion; and shortly afterwards she also ceased to be the subject of fluor albus. In about a year subsequently to these results, whilst obeying a call of nature and exerting herself too strongly to empty her bowels, which were at the time much constipated, she had the mortification to loose her pessary. She incurred this misfortune at an early hour in the forenoon. She spent the remainder of the day in making preparation for a third visit to the metropolis. On the subsequent morning, however, not feeling any inconvenience from the want of her pessary, she was induced to defer her journey, and to content herself for the moment to write to her surgeons in Paris for their advice. The result was, that she was recommended to postpone her intended visit sine die, until she should be able to ascertain that she might REALLY REQUIRE the further use of a pessary. In about a month afterwards she wrote to say that she considered herself perfectly and finally cured.

After a cursory reference to certain SUPPOSED cases of anteversion of the uterus which had been transmitted to him from the country for his opinion, but with the results of which he had not been made acquainted, M. Levret then proceeds to give the particulars of a third undoubted case of the uterine malposition under consideration, which occurred in his own practice, and that of his friend and colleague, M. Coutaveaux. Its subject was an unmarried lady

of about forty years of age. Her health had for several years been much deranged. When she placed herself under the professional care of the writer, she was become almost altogether incapable of walking on account of distressing pains in the hypogastrium and iliac regions, with which she had been for a long time afflicted, and which were exceedingly exasperated by certain positions of the body, as those of standing and kneeling, and especially by attempts to walk. Added to the pains already referred to, she was annoyed by a constant sense of weight in the region of the bladder, of which she was moreover quite incapable of voiding the contents, excepting in a position of her person nearly horizontal. It being strongly her impression that her case was one of stone in the bladder, she at length determined to take M. Coutaveaux's advice. On carefully sounding his patient, that gentleman was not able to find any stone in the bladder; although he could positively recognise a condition of that organ which was by no means natural to it. M. Coutaveaux was then induced to have recourse to an examination per vaginam, in order to ascertain that the case might not be one of prolapsion of the uterus; but not being able to reach the orifice of that organ, he failed to recognise the fact of any malposition of it. M. Levret was then consulted, and after encountering some little difficulty, succeeded in discovering the true nature of the case. He therefore proposed to his friend that a properly-adapted pessary should be passed up into the vagina, which, there being no objection to it on the part of that gentleman, was effected by himself without loss of time. In about ONE month afterwards the patient walked to M. Levret's house, a distance which even a good walker could not walk in less than an hour, to thank him for his most valuable services in the management of her case. There was, however, one circumstance remaining to which he felt very desirous of requesting his further attention; and that was, that ever since she had worn the pessary she had been the subject of a troublesome leucorrhœal discharge, accompanied by a considerable sense of heat and smarting pains of the vaginal surfaces. In reply to this statement, M. Levret encouraged her to hope that the symptom complained of would be but comparatively of short duration; and accordingly in about a twelvemonth afterwards it sensibly decreased in quantity: and all her other symptoms having gradually subsided, her health was eventually perfectly re-established. This result having been permanently attained, the pessary was considered as no longer necessary, and it was accordingly withdrawn.

Such are the facts upon which M. Levret has founded his doctrine of anteversion of the uterus. Well-marked cases of the same malposition which have been recorded since his time have not been very numerous; whilst indeed there is much reason to believe that many may have since existed which have not been equally sagaciously detected, or which very possibly may not have been specially noticed by reason of their complication with important diseases of tissue. In his own practice the author recollects to have met with very few examples of simple, and yet complete and confirmed cases of anteversion of

the uterus, within the last twenty years. The first he saw was perhaps the most remarkable for the variety and importance of its incidents. It was that of a married woman of about thirty years of age. The patient's own account of it was, that she became the subject of her disorder of the womb, as she considered it, during her third and last puerperal confinement, when she became the mother of two finely-grown children. She represented the last to have been withdrawn from her at the expense of so much force of traction, that during the passage of its more bulky parts, she felt as if some anterior portion of the parturient passage had been torn in sunder. Subsequently to her delivery she was the subject of much acute pain, which she felt as being high up within the vaginal passage; but which her medical attendant expressly referred to the symphysis pubis. In consequence of this impression many leeches were applied to the superior commissure and its neighbourhood, and a succession of blisters to the mons veneris. She was not able to void the contents of her bladder, without assistance, for many weeks; and then only in the horizontal position, or in that of half sitting and half lying. When she began to attempt to get up, she felt as if something fell suddenly into the lower part of the pelvis, which so much distressed her by the sense of weight and pain which it occasioned, that she instantly found herself compelled to resume the horizontal position. In consequence of this state of things she had been almost absolutely bed-ridden for about four months, when the author was first requested to see her. She was then pale, feverish, and irritable. At that time she could bear pretty firm pressure upon the symphysis pubis and mons veneris; whilst the same amount of pressure gave great uneasiness when applied to the inferior hypogastrium and iliac regions. The reported inconveniences incident to the state of the function of micturition furnished a motive for passing a catheter into the bladder, in order to ascertain the state of that viscus. It was found to contain about five ounces of water, which, however, the catheter did not reach until nearly the whole of it had been introduced, which was done in a tortuous, irregular, zig-zag direction, with a view to elude or get over an impediment which the point of the instrument could be distinctly felt to encounter. That obstruction might well have been a large calculus firmly imbedded within a thickly-coated cyst. But the author, from a consideration of the above particulars of the history of the case compared with what he could recollect of M. Levret's cases, felt more disposed to suspect what he soon afterwards had the opportunity of ascertaining, that it was distinctly a case of anteversion of the uterus. When the catheter was introduced, the patient was lying on her back. Examination per vaginam was made in different positions of her person. Immediately on withdrawing the catheter, the patient being requested not to change her position, the author, after much persuasion, the parts being acutely sensible to pressure, was permitted to make an attempt to ascertain the condition and precise locality of the uterus. The lower extremities were retracted towards the abdomen. Under these circumstances he was able with great

difficulty to carry up his finger into obscure contact with the vaginal part of the uterus, which he found in close apposition to about the middle of the hollow of the sacrum. The body of the same organ, or at least a fleshy substance of considerable size, and very painful upon being pressed, was found to stretch directly across the pelvis in a line nearly parallel with the conjugal diameter of its brim. The greater part of the vaginal passage, but especially its anterior parietes, were felt much swollen, and very painful to the touch. The patient was then desired to turn over to her left side, but with rather an inclination of the front of her person towards the bed. In this very convenient position, the finger which could readily feel the greater part of the body of the uterus, intermediately of course through the parietes of the vagina, and those of an inferior portion of the bladder, could scarcely be made to reach the anterior lip of the os tinæ; its actual orifice and posterior lip being entirely beyond the reach of the taxis. The patient was then desired to place herself on her knees and elbows. In that position the orifice of the uterus was totally beyond reach. On account of the extreme sensibility of the parts, whence there constantly distilled an acrid reddish mucus, it was considered useful to apply about a score of leeches to the vulva, before any attempt should be made to introduce a pessary. On the third day, subsequently, that attempt was made; but proved unsuccessful. It was found impossible to effect so much change of the existing position of the uterus as could enable the operator to bring its vaginal part to engage in the ring of the pessary. In this disagreeable predicament, he then bethought himself of passing up a piece of sponge of moderate size, and such as he might be able to convey to the space between the vaginal part of the uterus and the upper part of the walling of the vagina immediately behind it, where it should remain possessed of the perfect occupancy of its position. This, with the assistance of a small lightly-curved levator made of wood, and made on purpose, he was able, without much difficulty, to accomplish. In about three days afterwards he examined the parts again, and found the sponge precisely in the situation in which he had left it. The parts continuing still very tender, six more leeches were ordered to be applied, and the patient was recommended to take a warm bath daily, and to make use of an astringent lotion, which was prescribed for her, every four or five hours. On the sixth day after the introduction of the sponge it was withdrawn, and another of a size larger substituted for it. The parts were now much less swollen and tender than at the commencement of the treatment, and the patient observed that she had been able to void the contents of the bladder, during the last two or three days, with much less difficulty than ever she had done before since her confinement. On the occasion or one of his earliest subsequent visits, the author found her sitting up, and, as she stated, in much comparative comfort. It then became an object to make another trial to apply the ring pessary; and on the following day, having supplied himself with an instrument of that kind somewhat smaller as to the bulk of its walling, deeper as to its cup, and correspondently larger as to the width of its aper-

ture, he effected his object with much facility. On every succeeding examination the pessary was found in its proper position, and the patient in the mean time rapidly recovering her health and strength. After the lapse of about a month, the instrument was withdrawn, in order more distinctly to ascertain the situation of the orifice of the uterus. It was found as nearly as possible in its natural situation relatively to the vagina. If there might be any difference, it was that it was still in some small degree more determined towards the hollow of the sacrum than we generally find it to be. The pessary was therefore replaced, and the general treatment already had recourse to was ordered to be continued. In about fifteen weeks from that period the instrument was withdrawn a second time, when the patient was requested to walk up and down an adjoining passage, in which there was a flight of three or four steps. This she was observed to accomplish with no manifest difficulty; but nevertheless with more than ordinary caution. She said that she felt a considerable sense of weight and pressure at and about the brim of the pelvis anteriorly, which frightened and was uncomfortable to her, when she was walking down the steps; but that the ascent was more easy to her. The pessary was forthwith re-applied, and afterwards worn for upwards of a twelve-month, when it was finally withdrawn. Whilst being the subject of the above treatment, the patient had never conceived; although during several of the latter months of the same period she had ceased to abstain from the use of the means of conception. In about six months after the final removal of the pessary she sustained a miscarriage at an early period of gestation, and, within about ten months subsequently, two others. The only positive inconvenience which she now suffers in entail from her former malady, is the obligation, from which she cannot escape, of instantly obeying her natural calls, which are often very sudden and imperative, to empty the bladder; her power of retention, she states, being very feeble. She, however, voids her urine, without difficulty, in the ordinary position. The subject of the case is now about forty-three years of age. She appears to enjoy moderately good health; but is occasionally liable to be much enfeebled and constitutionally disturbed by profuse leucorrheal discharges. She is tolerably regular as to her catamenial periods; but that secretion, she represents as much too abundant. She has been subject during the last five or six years to occasional paroxysms of the hysteric passion.

Anteversion of the uterus consists in such a departure from its natural position within the pelvis, as produces a falling forward of its fundus against the symphysis pubis, and of its body upon its contiguous organ the bladder; its orifice in the mean time being determined towards the rectum and the hollow of the sacrum. This displacement of the womb, consequent most frequently upon some ascertainable occasional cause, becomes speedily productive of serious inconveniences to its subject. It is scarcely to be supposed that the anterior chamber of the pelvis could possibly for any length of time be occupied by the fundus and body of the uterus, without exposing the bladder to so much pressure and con-

finement of space as should impede the due performance of its proper functions. Hence difficult and painful micturition has always been described as an essential symptom of the disorder. In like manner the vaginal part of the uterus being determined towards the hollow of the sacrum, it must necessarily follow that, in cases of complete anteversion, the rectum could not escape, being exposed to analogous pressure and annoyance: hence therefore the tenesmus, constipation, and severe hæmorrhoidal symptoms, which practical writers have described as very frequent concomitants of anteversion of the uterus. Another symptom which has been considered an essential characteristic of the disease, is a state of perceptible fulness accompanied by a severe dragging pain at each groin. This effect may be well imputed to the severe tension to which the round ligaments must necessarily be exposed, in consequence of the elongation and pressure inseparable from their changed relations to the uterus. Most writers have spoken of violent pains of the hypogastrium and of the lumbar and iliac regions; and some even have represented the epigastrium and the whole of the abdomen as seats of painful affections during the presence of the lesion of position of the uterus now being described. In some cases there have been also dull aching pains of the interior of the thighs, and of the most distant lateral portions of the investing tissues of the pelvis. The uterus, subject as it obviously must be to so much mechanical inconvenience and restraint, and which it must necessarily be made liable to in consequence of its unfortunate loss of balance, cannot be expected long to remain competent to carry on the business of its proper functions with adequate efficiency and regularity: hence it has been generally observed that anteversion of the womb has frequently been productive of great disturbances of the important function of menstruation. In almost all the cases of this disorder which we find on record, fluor albus, at some or other period of its history, has also been a troublesome and often a very distressing accompaniment of it; whilst in a certain proportion of cases that secretion has presented the appearance of a sanguineo-purulent discharge. When the malposition in question has taken place gradually, produced by no ascertainable cause, the constitutional health has also gradually been undermined before the patient has thought it of importance enough to have made it necessary to take a professional opinion upon her case. Thus also, no doubt in many cases, might we often account for the great reduction of strength and emaciation of body, which have characterized the malady in women who have been long subject to it, before its existence has been satisfactorily ascertained. And thus may we likewise as certainly conclude, that many women have perished before the nature of their malady has been discovered at all. Again, a local affection of so much consequence as anteversion of the uterus, calculated as it really is to produce many sexual and constitutional sympathies, in addition to its distressing local affections, cannot long exist without disturbing the most important of all functions, viz. those of the digestive organs. In the sequel of its history, the heart and arteries escape not the general derangement consequent upon so many evils: hence chronic inflammations

of important tissues, daily reduction of strength from profuse morbid discharges, and eventually the ordinary train of febrile actions of a hectic and fatal character.

Anteversion of the uterus has so often succeeded to ill-managed puerperal confinements, as to make it quite certain that premature exposure to the general causes of feeble and unprosperous convalescence have been justly enumerated amongst its most frequent predisponent causes, by producing a state of relaxation of the tissues immediately concerned. To this cause some writers have added a more than ordinary amplitude, especially of the lower portion, of the pelvic cavity.

The occasional causes are very numerous; such as sudden and heavy falls; injuries sustained in parturition; violent exertions of whatever kind; travelling in carriages on rough roads; long and fatiguing journeys; reduced power of the round ligaments; according to some writers, morbid conditions of the posterior or sacral ligaments of the uterus; according to Levret, a more than ordinary development and engorgement of the anterior parietes of the uterus itself; morbid adhesions of the same organ to other tissues, as of its fundus and body to the posterior parietes of the bladder, and of its vaginal portion posteriorly to its corresponding superior and posterior walling of the vagina; the pressure of tumours, either of itself or of contiguous parts of whatever pathological character, provided their situation be such as to bear heavily on the uterus in a direction calculated to favour its anteversion; and the actions of certain functional agitations of the system, as those of violent coughs and vomitings. With respect to the operation of the excessive engorgement of the anterior walling of the uterus, which Levret supposes to be the principal occasional cause of its malposition under consideration, the author confesses that he entertains some doubt as to the correctness of that doctrine. Repeated opportunities for observation, which have occurred since the time of that eminent individual, have gone far to prove that simple engorgement of the part of the uterus in question should rather be placed amongst the effects of its malposition than among its principal occasional causes. It has, for example, been observed, that the hypertrophy of its anterior parietes has been in proportion to the duration of its displacement: a circumstance which would induce us to believe that its increment of bulk was rather the consequence of obstruction to the return into the general circulation of its venous blood, than the effect of any previous enlargement, attributable to no distinctly explained cause. It is moreover notoriously the fact, that anteversion of the uterus has very rarely, if ever, taken place in women who have never had children, or been the subjects of abortion: whereas it has been observed very frequently to present itself among the unprosperous results of ill-managed puerperal confinements. It deserves to be further remarked, that a similar engorgement of the posterior walling of the uterus has usually characterized its analogous malposition, when its fundus is determined in the opposite direction constituting retroversion.

A case of anteversion of the uterus AT TWO MONTHS' GESTATION communicated by M. Chopart is cursorily noticed by Baudelocque; and a similar case is said by Madame Boivin to have recently occurred in her practice, which it is important for us to know was remedied by nature alone, by means of the rapidly progressive developments incident to the organs principally concerned in the office of gestation. It has been supposed by some writers that the anterior obliquity of advanced gestation should predispose the uterus, subsequently to its being emptied of its gravid contents, to anteversion. To the author this hypothesis, for the doctrine has scarcely been attempted to be established by facts, seems improbable; inasmuch as the conformation of pelvis, that of great narrowness of its antero-posterior diameters, which experience proves to predispose to the obliquity of the uterus in advanced gestation, is the very reverse of what should predispose it to anteversion in its unimpregnated state.

The DIAGNOSIS of this disease can be absolutely and satisfactorily made out and established only by examination per vaginam; the greater part of the earlier symptoms consequent upon anteversion of the uterus being common to it with another malposition of the organ, viz. retroversion. In both malpositions, the axis of the uterus is totally reversed relatively to its natural situation within the pelvis; the difference being, that in cases of anteversion the fundus is determined to the front of the pelvis, so as to press painfully upon the tissues situated immediately behind the symphysis pubis; and its vaginal portion, including its orifice, determined towards the rectum and hollow of the sacrum: whilst in cases of retroversion, the orifice of the uterus is found tilted against the symphysis pubis, and its fundus thrown over into the posterior chamber of the pelvis. In both cases it is often found exceedingly difficult to reach the orifice of the displaced organ with the examining finger, whilst in some few instances it has been found almost totally impracticable. Amongst the cases which the most recent authors have recorded, it is scarcely possible not to observe that they have given accounts of examples of manifest DEGREES of the malposition of the uterus under consideration; some of the cases having admitted of a most easy reduction of it to its natural situation; whilst in others the same duty has not been accomplished without the greatest difficulty. We find several cases recorded in the work recently published by Madame Boivin and her colleague, where the uterus, without any attempt having been previously made to effect its reduction, has regained its natural position by the use simply of a sponge pessary, and even a few where no pessary of any kind were had recourse to. SIMPLE CASES of anteversion in subjects having well-formed pelves are indeed frequently thus easily curable by early and judicious management, and sometimes even without the aid of any mechanical contrivances whatever; whilst on the other hand COMPLEX CASES consequent or dependent upon morbid adhesions, the presence of tumours in the neighbourhood, or of diseased enlargements of the uterus itself, these diseased conditions being themselves incurable, admit of no remedy. It has been observed in respect of adhesion simply of the

vaginal part of the uterus to the corresponding vaginal surface immediately behind it, that it may exist without being productive of anteversion. It seems indeed very probable that by the adhesion here spoken of, whilst confined to the posterior surface of the vaginal portion of the uterus, that is of its neck produced, the perpendicularity of position of the entire organ relatively to the pelvis might not be much disturbed. But if we suppose an adhesion of the portion of the vagina already named to the surfaces of both labia of the uterine aperture to have taken place, it seems difficult to doubt that a most material change of its entire axis would be an unavoidable consequence.

Experience proves that one of the earliest and most inconvenient symptoms consequent upon anteversion of the uterus is a morbid accumulation of blood in its vascular tissues. Consequent upon this result, pressure applied to any part of it, especially to the parts already most inflamed, is usually productive of considerable pain to its subject. In some few cases, however, the patient has borne the professional explorations of their medical attendant without sustaining in this respect any great inconvenience : but these cases unquestionably form the exception to the general rule. In illustration of this point we may quote an interesting case of anteversion of the uterus recently published by M. Dugès in the work already, more than once, referred to, vol. i. p. 125; although it cannot be said that the malposition in that instance was one of an extreme degree. A young married lady, after having been delivered without assistance of her first child, felt, during her confinement, some pains in the region of the uterus. These indications of a mild metritis having continued for upwards of a fortnight, and having subsequently entirely ceased, the patient after the lapse of several weeks became the subject of a painful sense of weight upon the anterior part of the pelvis which immediately supervened upon an incautious movement, most indiscreetly indulged in, along a flight of steps. Soon after, this sense of weight became exasperated into a state of so much acuteness of pain, as to make it necessary for the patient to abstain from all exertion, and to have recourse to antiphlogistic remedies. On this occasion she obtained a speedy relief of her troublesome symptoms. Nevertheless, her improved state was of short duration, since, almost immediately after the removal of the above symptoms, the subject of our history undertook a journey of six leagues for the purpose, as she expected, of completing her cure. There resulted from it, on the contrary, an aggravation of her malady; in consequence of which she determined upon consulting M. Dugès. The pains were not very violent; but she was considerably annoyed with a feeling of tension and of a dragging pain of the loins and parts about the sacrum, together with an aggravated sense of weight bearing upon the rectum, and still more upon the bladder, whenever she made use of the erect position. The patient was, moreover, frequently excited to make attempts to empty the contents of the latter organ; which however she accomplished only in very small quantities at a time. These symptoms were relieved, without being totally subdued, as long as the patient

confined herself to a horizontal position, with her head and shoulders elevated. But she assured me that, when she lay with her pelvis raised by means of a pillow placed under the sacrum, and the head supported only by a bolster, all feeling of tension and twinging pains immediately ceased, leaving behind them only a mere sense of uneasiness and of a dull aching, scarcely deserving the designation of pain. This depended no doubt upon chronic inflammation of the uterus; which indeed was found universally swollen hard and sensible to pressure; and the whole of it occupying a lower situation relatively to the pelvis than was natural to it. On the patient attempting to sit up, its fundus was instantly felt to have its inclination forwards aggravated; whilst on the contrary it was easily reduced upon the horizontal position being resumed. That position was therefore carefully maintained for nearly six weeks. In the mean time leeches were applied to the groins, and emollient lavements and fomentations were diligently had recourse to. By these means the patient was eventually perfectly restored to her former state of health, without being obliged to submit to the use of any mechanical contrivance whatever to retain the uterus in its natural position.

The following case is an example of anteversion of the uterus, produced by what Madame Boivin calls an inflammatory engorgement of the round ligaments.

Madame De, of Rue de l'Echiquier, a patient of M. Dumeril, sustained during her last confinement a slight metritis, which left behind it a somewhat painful state of both groins, but more especially of the left. This symptom was accompanied by a swelling of the left labium pudendi. It was a remarkable feature of the case, that during every period of menstruation the pain and tumefaction just referred to disappeared almost entirely. Things went on much in the same way for many years; but the tumour increased in size, and the pain became more acute and extended. The patient complained of shooting pains within the vagina. Her menses were preceded and succeeded by a discharge of a sanguineo-purulent appearance. Apprehending that possibly she might have become the subject of an ulcerous disease of her uterus, she determined, on the suggestion of her ordinary medical attendant, to see me, in order to have the cause of her sufferings properly ascertained. At that time this lady was on the eve of her menstrual period. The left labium pudendi, at its inferior boundary, was of the size of a pullet's egg. I followed with my finger the direction of the tumour as far as the inguinal ring, which was the point most exquisitely painful. This tumour disappearing after each period of menstruation, I presumed that the menstrual turgescence occasioned thus at each monthly visitation, produced an excitation which had the effect of temporarily aggravating the ordinary and more subdued inflammation of the round ligaments; that thus might be furnished the material of a new abscess or a discharge of pus, which proceeding from its original source in the inguinal region, descended as I suppose by infiltration into the left labium pudendi, where gradually accumulating in quantity, it distended the loose cellular and filamentous tissue of that part, and finally escaped by a small fistulous opening. This aperture had no doubt closed very speedily;

for I was not able to discover the slightest trace of it. Passing on to the examination of the uterus, I found its orifice of the usual size; but situated very far back relatively to the pelvis, whilst its fundus was inclined forwards so as to bear upon the parts attached to the pubis. The attempts which I made to effect the reduction of the displaced organ caused very acute pains to the patient, which doubtless were propagated to the uterus, more especially from the left groin. Under these circumstances sexual intercourse had been unavoidably suspended. I felt no doubt that the seat of the malady was the round ligament of the left side. I communicated the result of my examination to M. Dumeril, and also suggested the means which I believed calculated to remove the patient's state of inquietude and suffering. The principal objects to be attained appeared to me to be, to give a freer issue to the purulent matter which accumulated in the substance of the left labium pudendi; to produce an irritation of the part corresponding to the inguinal ring, by means of the application of leeches, and subsequently by the use of a vesicatory. Frequently meeting M. Dumeril in society, our patient felt extreme repugnance to allow the operation required, to be performed by that gentleman; and at the same time not feeling disposed to place herself in the hands of a stranger, she requested me to take the charge of it. I consequently plunged a lancet into the most depending part of the tumour, and carried my incision upwards along the labium to the extent of from fifteen to eighteen lines. There proceeded from the wound a full tablespoonful of thick pus, slightly coloured with blood. With a small syringe I then injected into the part incised a quantity of an alcoholized infusion of balm, which I found ready at hand. A slight inflammation supervened; but in eight days afterwards, the part was completely healed and cicatrized. Subsequently to this result, a vesicatory was applied over the region of the inguinal ring, which was also surrounded by eight leeches, and thus was induced and kept up a state of suppuration of that part, for a fortnight. The success of this treatment was such, that during the next menstruation no swelling of the left labium took place; whilst only a slight pruritus occurred of any of the tract from thence to the inguinal ring, which had, up to that period, been the seat of pain as above described. Many years have already elapsed, and this lady, whom I have often since had occasion to see, has never sustained the slightest inconvenience which could in any way be attributed to the influence of her former malady. In cases of anteversion of the uterus occurring to females having pelves of more than ordinary magnitude, the reader may already have observed, that the displaced organ might become sufficiently and effectually reduced, without any direct effort made on the part of the practitioner to accomplish that object. Through the kindness of his friend, Mr. Snow of Highgate, the author had some years ago an opportunity of practically ascertaining this fact. The subject of the case alluded to was a poor woman, the mother of several children, who had to support herself and family by washing and other laborious services. When the author first saw her, she had been for several years the subject of a chronic anteversion of the womb, and at the time in question the whole organ had sunk

into the very deepest part of the pelvic cavity. The nature of the patient's principal occupation contributed greatly to exasperate her malady. On examination, per vaginam, the protuberant body and fundus of the uterus were felt to have descended so low within the pelvis, as to be on a level with the superior part of the arch of the pubis; whilst its orifice was found determined towards, and bearing upon, the posterior perinæum and coccyx. The perinæum was firm and unruptured. This examination was made whilst the subject of the case was standing. She was desired to lie on her bed, on her left side, and with her knees retracted. Gentle pressure was then applied upon the anterior projecting tumour, so as to make room for the introduction of a pretty large sponge pessary, which it was intended should principally occupy the lower part of the pelvis anteriorly. This duty was performed with little or no difficulty, the tumour having for the moment receded sufficiently to convince the author that the space required might be conveniently obtained. In a day or two subsequently, a piece of sponge of considerable size was accordingly introduced, and so fitted within its intended locality, as to meet very effectually its proper indication. Instructions were left with the poor woman to remove her pessary every night upon going to bed, and to pass it up again before she got up in the morning. This simple treatment, persisted in for about a year and a half, as the author believes, was successful not only in almost immediately relieving the patient of her troublesome and often distressing symptoms, but eventually in removing the cause of them.

From what has been already stated in the details of some of the above-cited cases, the reader will scarcely expect much further discussion of the TREATMENT proper to be adopted in cases of anteversion of the uterus. The several indications to be attended to may be comprehended under the few following heads: first, that of relieving, when necessary, present urgent symptoms, preparatorily to the reduction of the displaced organ; secondly, that of effecting the reduction in question; thirdly, the introduction and adaptation of a suitable pessary; fourthly, the medical treatment of the inflammatory and constitutional symptoms.

To meet the first indication, measures must be had recourse to, to abate the extreme distention and acute pain of the parts within the pelvis, which are sometimes encountered in the worst varieties of cases of this kind. Without attention to this object, it would often be impossible for the patient to bear the handling and even firm pressure which might be required, before the reduction could be accomplished. Local bleeding by leeches should therefore never be omitted in cases of great and painful intumescence of the external genitals and parts about the fundament. After the removal of the leeches, a warm bath, or the use of fomentations, and subsequently that of a large soft emollient poultice, should be made available for the further reduction of the phlogosis. The patient should be made to understand the importance of her maintaining inviolably the horizontal position for a time subsequently to be de-

terminated by the medical attendant: a duty however from the obligations of which she will probably not be in any degree relieved until the introduction and final adjustment of a pessary.

After the lapse of a day or two, the phlogistic symptoms will generally be found so much abated as probably to make it practicable to effect the reduction of the anteverted uterus; and so to meet our second indication of treatment. For this purpose the patient should be made to lie on her back with her breech elevated above the level of the upper part of her trunk, so as much as possible to relieve the uterus from the weight of the intestines. The bladder and rectum being previously well emptied, the index and long finger of the left-hand, IF LONG ENOUGH, should be passed high up into the vagina and beyond the vaginal part of the uterus; where they should be made to exert an effort to dislodge that part of the organ from its preternatural position, by applying considerable force to it from above and behind downwards. If the fingers cannot be made to reach the part of the uterus in question, then a slightly-curved instrument of sufficient length, made of wood, and rounded smoothly into an extremity not unlike that of a common vectis, must be substituted for them. Whilst the effect here supposed is attempted to be produced on the vaginal part of the uterus, another instrument, curved or not as the case might indicate, but broadly padded at its extremity, should be introduced immediately behind the symphysis pubis, and so applied to the tumour formed by the fundus and body of the uterus as, by a firm bearing upwards of its padded extremity, should effect a perceptible change of position of those parts; or, in other words, such a bearing upwards acting in combination with the counter-pressure downwards, made as already directed on the vaginal portion of the uterus by the other instrument, as should suffice to effect the reduction of the entire organ.

This replacement having been fully accomplished, it might not unnaturally be expected that, under suitable circumstances of management, the uterus should afterwards be competent to maintain its proper situation in the pelvis without the aid of any mechanical contrivance to retain it in its reduced position. Experience indeed proves that such in a certain proportion of cases has actually been the fact. Out of ten cases of this variety of malposition of the uterus quoted by M. Dugès and Mad. Boivin, we meet with at least three (tom. ii. pp. 125, 130, and 131) where the use of no pessary was resorted to; although the several sufferers are represented to have been successfully treated. In the greater number of chronic cases, however, where a malposition of the uterus of long duration might be presumed not only competent to change the mutual relations, but even the forms and relative magnitudes of the visceral contents of the pelvis, the reduction of the anteverted uterus should be followed up as speedily as practicable by the introduction and accurate adjustment of a suitable pessary. In cases of imperfect reduction of the uterus, or where only very partial success may have attended the first attempt to accomplish it, as also in cases complicated by some remains of local phlogosis, it might often be most

convenient to introduce, temporarily, one or more pieces of soft sponge, in order to secure the advantages already gained, until it might eventually be in the power of the practitioner to adapt to his purpose a more efficient and perfect instrument. This judicious proceeding may be adopted under almost any circumstances of anteversion, whether after a partial reduction of the displaced womb shall have been effected, or simply as preparatory to attempts to accomplish it. As a general principle, it should be observed that sponge pessaries should be withdrawn for the purposes of cleanliness, and re-introduced at least once daily. This practice might be considered as additionally advantageous, from the opportunity it would give the practitioner of informing himself, from day to day, of the actual state of his case, and of the amount of progress he might be making towards the final accomplishment of his object. In some few cases the skilful management of pieces of sponge might enable the surgeon not only to attain his initiatory object in having recourse, in the first instance, to the use of them, viz., that of aiding him to effect the reduction of the uterus GRADUALLY, WHEN HE HAD FAILED, OR ENTERTAINED NO HOPES OF BEING ABLE, TO EFFECT IT AT ONCE; but also to accomplish permanently the whole of the cure. In by far the greater number of cases, however, it would be found expedient to give to the uterus, when perfectly re-instated in its natural situation, the more secure support and protection of a deep ring pessary, such as will be described in a future article as one specially adapted for the lesion of position of the uterus under consideration.

It has often been observed that pessaries of almost every sort and kind have had the effect, FOR A TIME, of producing a discharge of fluor albus, or of increasing a previously-existing tendency to an excess of that morbid secretion. Provided no further evil should arise from the use of them, and it appeared evident that they well answered the purpose principally intended when introduced, the inconvenience sustained should of course be submitted to as one of trifling importance, and one, as experience has abundantly proved, of only temporary duration. Pessaries, from the unsuitableness of their materials, sizes, and forms, require sometimes to be exchanged for others better adapted to given stages and other peculiarities of particular cases of the malady to be remedied. On such occasions, it may sometimes happen that a necessity may arise for removing one instrument before it might be possible for the practitioner to provide himself with another or a better. During the supposed interval a suitable piece or pieces of sponge should be made use of as a temporary substitute.

In cases of anteversion of the uterus, complicated with certain varieties of adhesions of that organ to its adjoining peritoneal surfaces, or with the presence of some sorts of irremovable extra-vaginal tumours within the pelvis, or of others within an inferior part of the abdominal cavity, we may easily understand that pessaries of every kind may fail to give relief: for, in the first place, such complications may render even the reduction of the uterus impracticable; and

secondly, it would be worse than useless to attempt to apply to the uterus any sort of instrument made on the principle of an ordinary pessary, an instrument having for its object the retention of that organ in its proper situation within the pelvis, excepting on the supposition of its having been previously reduced.

Our fourth indication has for its object the proper treatment of any painful complications which may have the effect of exasperating the symptoms incident to the malady, or tend, by their influence on the constitutional health of the subject, to embitter her existence or to shorten her life.

The more obvious and constant objects of attention under this head of our subject should be considered more especially the functional conditions of the pelvic and abdominal viscera. There is scarcely a case recorded of anteversion of the uterus where it has not been accompanied by much disturbance of the function of menstruation, as well as by fluor albus and often by sterility. Sometimes the bladder sustains such a degree of condensation and also of increment of its tissue as to require to be relieved of its contents by a catheter for a long time subsequently to the reduction of the uterus. In other cases the same organ has been disturbed by the pressure of unsuitable or badly-adjusted pessaries. From the same cause also, as well as from the direct influence of the actual malady, the rectum has been made the seat of great engorgement of its vessels, and condensation and thickening of its other tissues, and consequently made the subject of a sense of weight and pain of the part, and of much irregularity and disturbance in the performance of its proper functions. To these and possibly to some other morbid states of the organs contained within the cavity of the pelvis the practitioner will have therefore to determine his vigilant attention and most skilful practical services.

The means generally best adapted for quickening the progress of slow recoveries, subsequently to the reduction of the uterus, might be enumerated under the following several items of personal and professional management: viz. 1. Much use of the horizontal position, with the breech as high relatively to the upper part of the trunk as may be conveniently practicable. 2. Great care to keep the bowels open, and to have the rectum more particularly well emptied, AT LEAST ONCE DAILY. For this purpose it may be found necessary to have recourse both to the use of aperient medicines and demulcent enemata. 3. The frequent and effectual emptying of the bladder. This function may often be very materially aided by the use of the tepid hip-bath; by that of the bidet, with water of the temperature of about eighty-eight to a hundred of Fahrenheit; and by fomentations from time to time of the external genitals with flannel or large sponges wrung out of hot water, as occasion may indicate. 4. Much phlogosis of the parts at the outlet of the pelvis might require the occasional application of six or eight leeches to the engorged surfaces there situated. 5. For several days after the introduction and adjustment of a pessary, examination should be frequently made to ascertain the fact of its continuing to retain its position relatively to the vaginal part of the uterus, to the pelvis,

and to the bladder. 6. The use of proper means to re-establish or to restore the balance of the catamenial function when suspended or much disturbed. 7. Proper restrictions upon the privileges of the marriage-bed; the period of restoration of those rights to be of course determined by the medical attendant. In deliberating on this subject, the practitioner should bear in mind the fact that the developments of pregnancy have repeatedly proved curative of slight cases of anteversion of the uterus. 8. The adoption of measures calculated to effect the restoration of the general health. All derangement of the functions of the chylopoietic organs would here of course present themselves to the practitioner's early consideration, and should obtain his most prompt and judicious attention. During a feeble or tardy action of the liver, it would seem of course quite obvious that moderate doses of blue pill, or some other form of a mild mercurial medicine, could not be properly dispensed with. Dyspeptic symptoms should be relieved by bitter tonics and aromatics, with the addition of mineral acids or alkalies, as the particular case might indicate. The diet should be suited to the appetite and power of digestion of the patient, but with this understanding that it should be mildly nutritious. In an advanced state of cachexia and marasmus consequent on an exsanguined state of the vascular system, preparations of iron should be exhibited in gradually-increasing doses. The preparation of that metal, which is found most easily borne on feeble stomachs, is the *vinum ferri*; which therefore might be prescribed at first in doses of from half an ounce to an ounce three times a day; but to be soon superseded by the use of the carbonate of iron in substance, and as already stated in gradually-increasing quantities. Exercise in the open air should be made available as a means of re-establishment of the general health as soon as it shall appear to the practitioner a safe measure relatively to the local affection. With the use of a perfectly-efficient pessary, and in the absence of all local irritation and phlogosis, it may probably be made use of, with great advantage to the patient, in the course of a very few weeks after the reduction of the uterus.

There exist, as far as the author knows, no satisfactory documents to enable us to come to a practically-conclusive judgment as to the earliest time we might venture to dispense with the use of pessaries. It would seem indeed probable that no specific rule could be made applicable to the treatment in this respect of all possible varieties of cases. As a general principle it would appear most proper to accomplish this object *VERY GRADUALLY*, and as it were tentatively or in the way of experiment. Suppose, for example, that in a case of simple anteversion, the patient felt herself quite well or perfectly relieved of the symptoms of her malady after the lapse of a few days subsequently to a successful replacement of her uterus. Now, in a recent case accompanied by this result, it might be competent on the part of the practitioner to withdraw the pessary in the course of five or six weeks afterwards. But if we suppose the malposition to have existed for many months, or for years antecedently to the application of the remedy, it might become a matter of necessity that the pessary

should be worn at least a twelvemonth, possibly for eighteen months, subsequently to the date of the reduction.

The principal documents existing on this subject are, the excellent and original article upon it by M. Levret, as already referred to: another article of some value, but of much inferior importance, on the same subject, by M. Desormeau, in the *Dictionnaire de Médecine*, tom. xxi. p. 122—130: a few brief remarks on anteversion of the uterus, illustrated only by a single case of it, complicated with a carcinomatous state of the same organ, by Messrs. Murat and Pattissier, art. *Matrice* Dict. des Science Médicale: a thesis on anteversion of the uterus, by M. Ameline, Paris, 1827, containing a great number of valuable cases, of which many are represented to have been borrowed from Madame Boivin: and lastly, the lately-published Essay, on anteversion of the uterus, by Mad. Boivin and M. Dugès, containing an accurately-pathological history of the disease, illustrated by interesting examples of its best-known varieties both simple and complicated. *Traité Pratique*, etc. tom. i. chap. 3. p. 115.

OF ANTEFLEXION AND RETROFLEXION OF THE UNIMPREGNATED UTERUS.—Both these affections consist in incurvations of the longitudinal axis of the uterus, in the one case diverging from its natural situation of parallelism, or nearly with that of the brim of the pelvis, towards the symphysis pubis, and in the other from the same supposed line towards the hollow of the sacrum. In both, therefore, we have lesions of figure, and, partially but in opposite directions, lesions of position of the uterus. In both, the orifice continues to retain its natural situation, relatively to the pelvis and to the vagina, undisturbed; the middle and upper part of the organ exclusively having been found to diverge from their proper axis. Dr. Denman was the first to describe a case of retroflexion; which he did indeed very succinctly; but also with considerable precision. The following historical notice, intended to apply to both varieties of incurvation of the womb, was recently published by Mad. Boivin and her colleague. “We also read, in the *Old Journal de Médecine*, the description of a uterus simulating in its form the curvature of a little horn; but this, in common with Dr. Denman’s case, was nearly forgotten, when an observation forwarded by Mad. Boivin to M. Ameline, and published by that gentleman in his thesis on anteversion, fixed the attention of practitioners of midwifery. Since that time incurvations of the unimpregnated uterus have been often recognised and rationally treated. We here purposely make use of the epithet UNIMPREGNATED, to distinguish deflexions of the uterus in that state from certain inclinations of the same organ during advanced pregnancy which were known before. Baudelocque had correctly observed that in certain obliquities of the uterus, the neck deviated from the natural axis of the entire organ in the same direction as the fundus. The same fact has been observed by Madame Lachapelle, Velpeau, and others.” It is probable that both varieties of incurvations of

the unimpregnated uterus, forming together the subject of the present notice, may have occurred congenitally as the effect of an originally imperfect development. It is moreover very certain that they may have occurred as a result of disease, either primarily of the uterus itself, or of the organs in immediate contiguity with it. But in the greater number of cases, they should be recognised as consequences of the extraordinary changes, important functional influences, prodigious extension of volume, and unequal developments of given parts of the uterus during pregnancy, and perhaps of unequal contraction and condensation of other given parts of it after delivery and during the puerperal state. Dr. Denman attributed the retroflexion of that organ in the case which he published, and which had been communicated to him by Dr. Thomas Cooper, to over-distention of the bladder as its occasional cause.

The ordinary locality of these incurvations of the uterus is the upper extremity of its neck, or the part where its neck and body are supposed to be continuous into each other. It has accordingly been observed that women who have had children or abortions have been more frequently the subjects of deflexions of the uterus from its natural axis than virgin females of any age. The incurvated part of the uterus consequent upon these deviations from its ordinary form has sometimes been seen to present an angle of considerable acuteness; whilst in other cases the angle of flexion has been an obtuse one. These facts have been satisfactorily proved by post-mortem examinations: for they could scarcely be very accurately ascertained by any examination per vaginam during life. It is indeed more than probable, by reason of the unsatisfactoriness of that procedure in the latter case, that these deflexions of the uterus from its natural and healthy axis have often escaped detection, or been mistaken for scirrhusities and other structural diseases of the same organ. In the greater number of cases of this kind, the orifice of the uterus is found situated at or very near its natural situation in the middle of the vagina; the fundus in the mean time being to be found deflected as the case might be, either forwards so as to occupy the anterior, or backwards, so as to be felt bearing on the flooring of the posterior chamber of the pelvis. To ascertain the facts of either of these cases, the practitioner is directed to carry his finger from the extremity of the vaginal part of the uterus upwards, along either side as far as the angle of its deflexion, and from thence forwards or backwards as the case might be, still following its lateral boundary, until it reaches the fundus. This is all very intelligible and very useful no doubt as far as it goes; but does this supposed palpable doubling of the angle of flexion by the finger furnish sufficient evidence to the practitioner of the continuousness and identity of the tissues forming its two sides? If not, it should of course follow that the tumour supposed to be the fundus of the deflected uterus might really prove to be one of morbid growth, either from the body of that viscus itself, or from any other part or organ in its immediate neighbourhood. Hence the diagnosis of these deflexions, when of long standing and become actually chronic in their essential characters, must always, in the

author's apprehension, present a subject of considerable doubt and difficulty. This remark however does not apply to recent cases, in which the fact of either of these incurvations of the uterus might seem to admit of being more easily detected and established; and when also, under proper management, the prognosis might be considered as more favourable. On this latter point see the opinion of the late Dr. Denman, *Introduction to the Practice of Midwifery*, chap. 4, sect. 2: "By this term," *VIZ. RETROFLEXION*, observed that eminent and excellent individual, "is meant, such an alteration in the position of parts of the uterus that the fundus is turned downwards and backwards between the rectum and vagina, whilst the os uteri remains in its natural situation; an alteration which can only be produced by the curvature of the uterus in the middle and in one particular state; that is, before it is properly contracted when a woman is delivered. A suppression of urine existing at the time of delivery, and continuing unrelieved afterwards, was the cause of the retroflexion of the UTERUS IN THE SINGLE CASE OF THIS KIND of which I have been informed by Dr. Thomas Cooper; and the symptoms were like those which were occasioned by the retroversion. When the urine was drawn off by the catheter, which was introduced without difficulty, the fundus of the uterus was easily replaced by raising it above the projection of the sacrum, in the manner advised in cases of retroversion, and it occasioned no farther trouble."

OF THE TREATMENT OF THE ANTERIOR AND POSTERIOR DEFLEXIONS OF THE UTERUS.—The prognosis in recent cases of this kind is more favourable than in those of long standing; because, whilst recent, they are incomparably more accessible, if not then indeed exclusively accessible, to efficient treatment. Were the discovery of either of these deflexions to be made immediately after it had taken place, a circumstance however not at all probable, the replacement of the deflected fundus might most easily be effected by the introduction of the hand into the interior of the uterus itself; the breech of the patient being raised above the level of the shoulders, to prevent relapse. Should the practitioner find upon withdrawing his hand, a disposition on the part of the uterus to lapse again into its previous malposition, it might be advisable that he should substitute for his hand another instrument of less dimensions; such for instance as a smooth wooden spatula, broadly rounded at its upper extremity; a round ruler, also rounded and made smooth at its upper extremity; in short, any sort of implement of length enough to reach the fundus of the uterus in a state of comparative relaxation soon after delivery. A strong rod of whalebone with a largish piece of sponge firmly fastened to its extremity, on the principle of a probang, could scarcely fail to answer the purpose perfectly well. With some such instrument as this the fundus of the deflected uterus might be replaced with almost as much facility and certainty as by the hand itself. But should this attempt fail, the practitioner would have to introduce his left-hand as before he had done the right; and after effecting the replacement of the fundus

of the uterus, he would have to pass up his artificial instrument along the palm of the left-hand already introduced as far as the fundus, which it should be made to support firmly in its reduced position, so as to leave the practitioner at liberty to withdraw his hand. The handle of the instrument should then be attached to some fixed point of dress or bandaging on the outside of the pelvis, and there left for a time to be determined by circumstances. It might be expected that the procedure here represented might have the effect of exciting painful contractions in the uterus, and therefore prove objectionable in practice. But whilst admitting this fact, it does not follow that we should admit the conclusion attempted to be drawn from it. Active contraction of the uterus under the circumstances supposed, although it should be attended by paroxysms of pain, similar to those of after-pains, WHICH REALLY WOULD BE THEIR CHARACTER, should be considered as furnishing the best possible evidence of the efficiency of the practice. The contraction here supposed should therefore be allowed to continue for some hours. and the uterus permitted very gradually to relieve itself of the cause of it, viz. the pressure of the instrument against its fundus, by very measured relaxations of the pressure made against its fundus, until at length it might be considered safe that it should be allowed to rid itself of it altogether. On the final removal of this new kind of pessary, the practitioner should consider it his duty to make an accurate examination per vaginam, in order to satisfy himself that the uterus was thus finally left in its natural position and form. To ensure the absence of all unnecessary pressure upon it for some time subsequently to the removal of the pessary, it would be a good precaution to cause the bladder and rectum to be well emptied before that instrument was withdrawn. The patient should then be directed to continue to maintain the horizontal position ON HER BACK for several days without remission; her case being supposed to have been one of ante flexion, and on one side, with an inclination forwards, if one of retro flexion. Should the deflexion not chance to be discovered until after the lapse of several days subsequently to the delivery, the above procedure might very probably, with some modification as to the form of the instrument, be still made available in good hands as a successful means of replacement.

When either of the malpositions of the uterus under consideration shall have become chronic, so as to amount to what might be considered as almost equal to a permanent malconformation of the organ, the author knows of no chance of a cure, excepting from such developments and changes of condition in the organ itself as might attend a future pregnancy: and hope founded on those results has not always been without foundation, as we find exemplified in M. Dugès' case, No. 3, vol. 1. p. 212. That case is indeed one of so much practical importance as to deserve the reader's perusal. "A case of ante flexion of the uterus of considerable amount presented itself to my attention a good many years ago, of which the subject was a young married woman of from four to five-and-twenty years of age. She said that she believed herself pregnant, and that she was arrived at

her tenth or eleventh week of gestation; and she had good reason to suspect and to wish for it. Appearing in all the freshness of youth and health, this person, whose constitution was perhaps a little lymphatic, further stated that she had been already twice pregnant, but that only one of those pregnancies had arrived at its full period: and that it was now four years since she had been last confined.

“ Since that period the subject of our narrative had not sustained any remarkable inconveniences; excepting that, upon being directly questioned on the point, she acknowledged that, for a long time, she had experienced great pain upon receiving the approaches of her husband. It was only however a few weeks since that she felt her uterus manifestly much lower than she had been accustomed to feel it; although she was not sensible of any great inconvenience from the pressure of it either on the rectum or the bladder. She had missed her menses during each of her last two periods; but had been the subject of a fluor albus ever since the time that secretion had disappeared. What presented itself to me as most unusual upon examination per vaginam, was the direction of the neck of the uterus; which I found lying on the anterior surface of the coccyx, and in such a manner as to present its os tincae in a direction parallel with the axis of the outlet of the pelvis. This circumstance, added to the fact of a real descent of the womb, for I found the os tincae at a depth of a full inch and a half in the vagina, induced me at first to believe that my case was one of the first degree of prolapsus. I was however undeceived, by discovering a roundish tumour, somewhat larger than the fundus of the uterus in its natural state could be supposed to be, which was slightly painful upon pressure, situated between the anterior wall of the vagina and the bladder. After tracing with attention in the manner recommended by Mad. Boivin the continuity of this tumour with the cervix of the uterus, a deep hollow could be felt, which received easily into it the extremity of the finger, and which corresponded anteriorly with the point of flexion of the fundus and body of the womb upon its neck: since by pushing its body in any direction, the cervix followed it without producing any change in their mutual relations. The cervix was not particularly engorged; but it was somewhat longer than we usually find it in its natural state. Its lips were salient, especially the anterior one; and its orifice open and fissured towards the right commissure. The pregnancy which was somewhat doubtful at that period became sufficiently manifest in the course of a few weeks afterwards. By an inquiry of the same kind made two months subsequently, I found the uterus much higher up within the vagina, and affected with much less obliquity anteriorly. Its body was always inclined upon its cervix. The angle of flexion was of considerable depth, although perceptibly less than at the date of the former examination. It was indeed impossible to reach the body of the uterus notwithstanding its volume, by carrying the finger up behind the os tincae. The flexion became eventually greatly diminished; and there is no doubt that it was ultimately completely effaced, in proportion as the neck was shortened by its progressive develop-

ment during the more advanced stages of pregnancy." Immediately preceding the above case, in the same volume, p. 209, we are presented with another example of conception having taken place during the presence of an ante flexion of the uterus; a case which had probably existed for a period of not less than two-and-twenty months, and been attributed to an accidental but momentary over-exertion made by the patient within a fortnight after the birth of her first and only child. The genitals were so exceedingly painful that Mad. Boivin, after consultation with M. Espiaud, found it impossible during her first professional visit to determine the precise nature of the malady. In order to reduce the distressing phlogosis of the parts, recourse was had to the use of leeches, baths, half-baths, and narcotic injections. "We could then," observed the writer, "convince ourselves that no tumour could be found within the hypogastrium by what is called the external or abdominal examination; but by examination per vaginam we could easily ascertain that the os tincæ was inclined towards the left side, not very sensible to the touch; and that the tumour of which we could not a month before determine the character, was formed by the fundus of the uterus, in consequence of a deflexion of that part forwards, towards the neck of the bladder and the superior part of the vagina anteriorly; where it had embedded itself so deeply as to have reached within eight or ten lines the parallel of the os tincæ." The patient was left with instructions to use exclusively the horizontal position, either on the bed or on her sofa; and to treat herself as occasion might require with emollient enemata, general and partial baths, etc.: which, it was said, she scrupulously observed for a twelvemonth. It was then intimated to the husband that the events of another pregnancy might become productive of further sanative effects: but on this point it was determined to take the opinion of Professor Dubois. That gentleman at once recognised the nature of the case, and approved of what had been done and advised for its relief. On the 23rd of October, 1830, which was nearly two years from the lady's confinement already referred to, we accordingly received information that she had experienced the usual symptoms of a recent pregnancy; but which were accompanied by pains in all the lower regions of the abdomen. Madame Quen... was not able to walk, and was forced to confine herself to her sofa. Symptoms of hysteria, moreover, supervened to complicate the pregnancy; which nevertheless came to a happy termination towards the end of March, under the professional superintendence of Madame Charrier, in the presence of M. Espiaud. That physician has since intimated to us that he left what he considered the most useful directions for preventing the recurrence of the former evil: but we do not know with what effect.

M. Deneux, in a case of ante flexion which he once had occasion to treat, sustained a total disappointment in his hopes of being able, by skilful management of the issues of pregnancy, to prevent relapse; although the labour, in other respects, had been every thing that could be wished for." *Traité Pratique*, tom. i. p. 212.

From an attentive perusal of the above statements, added perhaps to the results of some other cases on the same subject which we find on record, it appears to the author that he may safely conclude the present article with the following practical inferences. 1. That the partial malpositions of the uterus, called anteflexion and retroflexion, are rare affections of that organ. 2. That they have seldom if ever occurred in a virgin subject excepting from congenital formation, or as a direct mechanical result of structurally-diseased conditions of one or more of the pelvic or hypogastric viscera. See *Mad. Boivin's case of an unmarried woman*, *Trait. Pratiq.* tom. i. p. 214. 3. That, on the other hand, they have generally if not always taken place either during early pregnancy, during parturition, or during an early period of the puerperal state; although in many cases they may not have been recognised for many weeks or months subsequently to their occurrence, nor very rarely indeed until it has been hopelessly too late to afford a chance of their being remedied. 4. In the very small number of cases where the accident was detected at the time, or very soon after its occurrence, it has been found practicable, and even not difficult, to effect the reduction of the deflected uterus. *Denman's Introduction*, chap. iv. sect. 2; *Boivin and Dugès, Trait. Pratiq.* No. 5. obs. 2. p. 215. 5. When such accidents have occurred during an early period of pregnancy, they have usually found a natural and effectual remedy in the further developments incident to more advanced periods of gestation. 6. Cases of chronic deflections are to be considered as totally incurable by any efforts of art exclusively, without the aid of nature as exerted during the changes and developments referred to as special attributes of pregnancy. 7. That in such cases as in all others where local treatment shall prove unavailable towards the attainment of a perfect cure, it will devolve upon the medical attendant to determine his own attention, in common with that of his patient, to the more general indications calculated to ensure as much personal comfort and constitutional health and strength as may be compatible with the essential untractableness of the primary malady.

HERNIA OF THE UNIMPREGNATED UTERUS.—Of this displacement of the uterus the ordinary designation in nosology is *hysterocele*. It is a displacement of it, which may occur either during pregnancy, or in a state of vacuity of that organ. The natural locality of the womb being within the cavity of the pelvis, it would appear scarcely possible, when not impregnated, that it could find its way by any of the usual routes of hernial protrusions out of it, as ever to form a part of a visceral displacement of that class. The author indeed believes that there is not on record a single case of *hysterocele* in a virgin subject, and only very few examples of its occurring subsequently to antecedent pregnancies, in persons not actually pregnant, puerperal or convalescent after child-birth. These few exceptions however to the general rule are sufficient to bring the subject within the comprehension of the present article. One of the first recorded cases of *hernia matricis* in an unimpregnated subject is that which we find reported by Pro-

fessor Lallement, in the *Memoirs of the Medical Society of Emulation*, tom. iii. p. 323. See also the *Recueil Périodique de la Société de la Santé*, vol. v. p. 14. The subject of the case was an old washerwoman who had had many children; but without having experienced any thing unusual in her labours. At about the age of fifty, when her menses ceased, a swelling presented itself at the right groin in consequence of a strong bodily effort. This tumour was of a pyriform shape, and of length equal to five fingers' breadth. From its being painful at first, it soon afterwards became insensible. The subject of the case, some time subsequently, availed herself of an asylum afforded her at l'Hospice de la Salpêtrière; where she died at the age of seventy-one. On dissecting her, Professor Lallement found, in a very thick herniary sac, the whole of the uterus, together with the Fallopian tube and ovary of the right side. The other ovary and its tube were seen to border the outside of the ring. The vagina was drawn violently upwards, and put upon the stretch by the uterus, so as to cause pressure of the bladder against the pubis. The upper part of the vaginal tube had indeed been carried through the ring, together with the vaginal part of the uterus, which it embraced: M. Lallement directed particular attention to this circumstance, as a feature in the case which should be considered as one of the most certain indications of an inguinal hernia of the uterus. M. Murat in his article on Hernia of this organ. *Dict. Scienc. Médic.* tom. xxxi. p. 227, quotes also the following case.

Maria Michel Dubourg, of a remarkably lymphatic constitution, was the mother of eight children, whom she bore without any unusual difficulty. In about eight days after the birth of her last child, when she was forty years of age, she resumed the duties of her laborious calling, viz. that of a washerwoman; and soon after observed a small tumour presenting itself on the lower part of her right groin. She succeeded in effecting its reduction, but took no other precaution. In about a year afterwards she was seized with paroxysms of abdominal pains, accompanied by nausea and sickness, which being from time to time repeated, she was induced to wear a bandage; which however she soon again neglected. The tumour increased in size, and eventually became irreducible. From the age of seventy-four to that of eighty-two the poor woman continued to be subject from time to time to attacks of nausea, pains of the bowels, and sometimes to vomitings. At length, on the 19th of December, 1815, some additional symptoms of strangulation presenting themselves, she was induced to seek admission into the Infirmary of the Salpêtrière. The tumour was characterised by the following properties. It was situated in the right groin. It was of an enormous size, measuring five inches in length and four in breadth. Its form was that of a three-sided pyramid. Of these sides, one was directed forwards, another backwards, and was in contact with the right thigh, and a third inwards, towards the vulva, beyond which it descended some inches. It was larger in the middle than at its base, which was uppermost; its summit being inverted. Its direction was obliquely from the right to the left, and from

above downwards. The integument had so much yielded, that it really formed a pendent bag between the thighs. The finger, when applied above the tumour, could easily recognise the inguinal ring in its natural state; and immediately below was felt the crural arch. The great volume of the hernia, and the very moderate intensity of the symptoms of strangulation which distinguished it, led to the belief that its contents were chiefly epiploïc; and that if it contained any intestinal structure, its usual and proper character must be greatly disguised by its being included within an investment of omentum. The size of this tumour, the inconsiderable violence of its accompanying symptoms, the advanced age of the patient, and especially the bad state of the pulse, were all circumstances which contra-indicated an operation; and accordingly the treatment was limited to the exhibition of laxative tisans and emollient enemata. These means proved sufficient to relieve the symptoms of strangulation; but the patient died soon after of adynamic fever. On examination of the body after death, the integument was found quite sound, and beneath it a considerable quantity of adipose substance. The herniary sack was with difficulty to be recognised. Deeply seated there was to be seen a considerable mass of a lardaceous fatty substance. This, upon dividing it, appeared to consist of two layers; one external and the other internal. No portion of intestine was implicated in the disease, and the visceral contents of the hernia, which were every where adherent to the adipose substance which surrounded them, were, the uterus, the ovaries, and the Fallopian tubes, a part of the vagina, two distinct coils of epiploön, and finally two distinct cysts, or perhaps hydatids. The hernia was a crural one. The upper part of the vagina, greatly elongated, as indeed was the whole of it, formed a part of it. The bladder and the rectum were in their natural situation. *Bulletin de la Faculté de Médecine de Paris*, an. 1816, No. 1.

It seems possible that a hernia of the uterus might exist as a congenital malformation. The author is however not aware of the existence of a case in illustration of this point, excepting that of the remarkable Humbert Jean Pierre, as reported by M. Maret in the second volume of the *Memoirs of the Academy of Dijon*, and quoted at length in a preceding article; see pp. 66 of the present work.

THE TREATMENT OF HERNIA OF THE UNIMPREGNATED UTERUS must be conducted on the same principles and by similar mechanical means as other hernial protrusions. Elastic bandages and trusses, first to prevent protrusion when only threatened, and again to prevent relapse after it shall have once protruded and been properly reduced, are accordingly the objects and the means indicated for its treatment. In the event of strangulation taking place, there should not be a moment's hesitation as to the obligation of performing the operation required in that case without delay.

OF ANOMALOUS STATES AND AFFECTIONS OF THE VAGINAL PART OF THE

UNIMPREGNATED UTERUS.—This important portion of the uterus may be said to be subject to considerable varieties of original conformation. In the fœtal state, and for a short time after birth, its orifice would seem to present the appearance of not having been evolved into its eventually intended form; its lips being of a loose texture, and having more the character of an appended drapery to the body of the uterus, than a firm and continuous portion of that organ itself, finished off into the precise shape and polish of surface, which afterwards are found to distinguish them. The form of the aperture, of which the labia are the boundaries, is not the same in all subjects at any age; it being in some cases perfectly circular, and in others and most frequently a transverse opening, bounded by two lateral commissures. Again, the length of the entire projection, correctly denominated the vaginal part of the uterus, has been found very greatly to vary in different women, although perfectly similarly situated as to age and functional influences. It may be further observed that it has very rarely happened that the violence exerted on the part in question by the agency of parturition has not left it materially changed from its original form and perfect continuity of its tissue; it being well known that on occasions of great severity of the function alluded to, it has often been left deeply fissured and carunculated. There are indeed facts to prove, that portions of the same tissue have SLOUGHED OFF in masses of various magnitude, both in consequence of specific diseases and of injuries sustained from severe and protracted labours; so as to leave no vestige even of a projecting remnant of a part, which before had been so prominent and characteristic. This portion of the uterus has moreover been the subject of so much active inflammation of its surfaces, as to become adherent by means of these surfaces to the corresponding surfaces of the parietes of the vagina, and consequently become totally obliterated as a projecting body into the vaginal passage. Sometimes these adhesions have taken place without at the same time having had the effect of closing up the passage into the uterus, and consequently without seriously compromising the interests of the attribute of reproduction; whereas in some other cases, the injuries inflicted have been such as not to have been sufficient to impede conception and the subsequent evolutions of the fœtus in utero: although at the full period of gestation they could be easily ascertained to have been of such a character and magnitude as must oppose an unsurmountable obstacle to the birth of a living child. The present notice does not profess even to ENUMERATE all the varieties and changes of condition incident to the vaginal part of the uterus; it being the author's impression that he will have more suitable opportunities for the further consideration of the subject under several future articles.

Fig. 1.

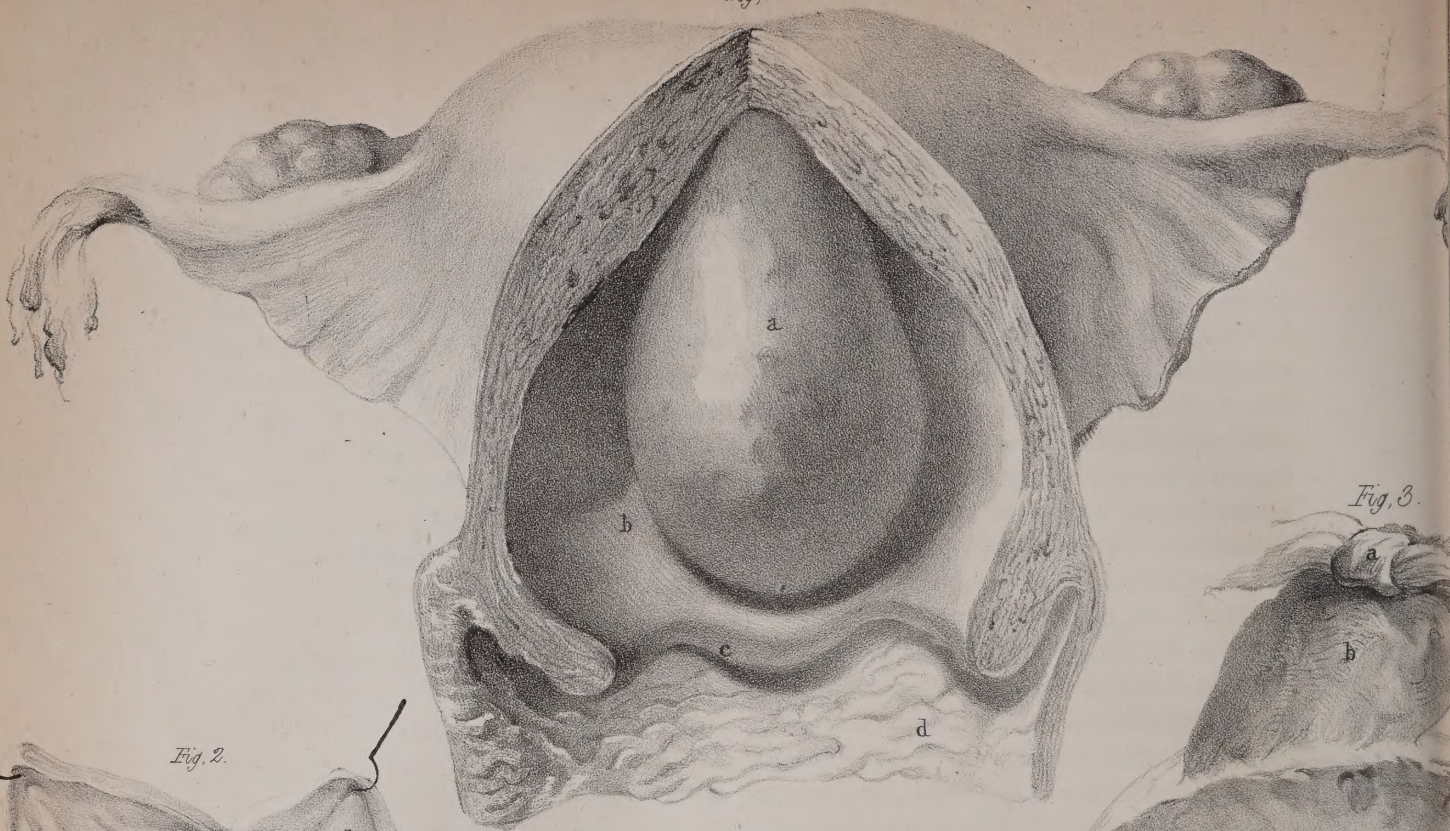


Fig. 3.

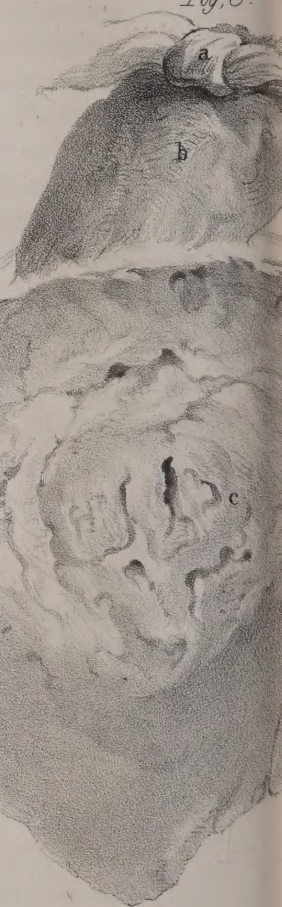


Fig. 2.

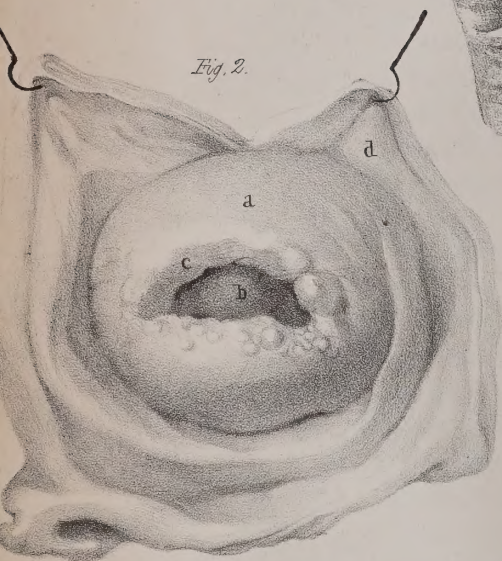
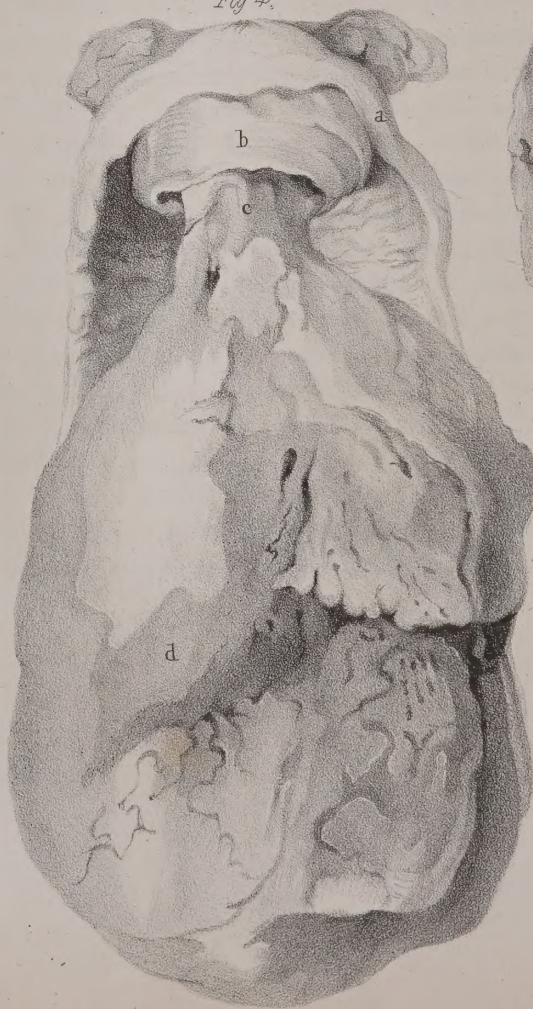


Fig. 4.



CHAP. VIII.

OF PEDICULATED AND OTHER EXCRESCENT TUMOURS FROM THE UTERUS.

OF PEDICULATED TUMOURS USUALLY CALLED POLYPI OF THE UTERUS.—Sarcoma matricis; fungus uterinus; mal Saint Fiacre; poulpe; cercosis; queue de la vulve. The term polypus means, ETYMOLOGICALLY, any body or trunk having many feet, and was no doubt first applied to the sea animal with many feet still known by the same designation, viz. the polypus marinus. In process of time, and possibly in consequence of some fancied resemblance of structure between the constituent tissues of marine polypi and those of certain pediculated tumours which were observed to grow from some of the cavities and outlets of the human body, the well-known and accepted designation of the former was thus easily assumed as an appropriate appellative of the latter. The specific character of the pediculated tumours of human nosology is not that of their being supported by or attached to the surfaces from which they take their origin, by eight or any other number of feet or fangs; but simply THAT THEY DO TAKE THEIR ORIGIN FROM CAVITIES AND OUTLETS OF THE BODY LINED WITH MUCOUS MEMBRANES, AND THAT THEY ARE ATTACHED BY A STEM; it having been observed, as some authors have maintained, that true polypi never take their origin from any other than mucous or cellulo-mucous tissues. This pathognomonical distinction of true polypi must of course exclude all other morbid formations, of whatever family or kind, or wherever else situated, as for example in the heart, brain, etc., from identity of nosological character with the pediculated tumours which are to form the subject of the present article.

Polypi are adventitious structures which have been known from time immemorial; and the best mode of removing them has been an object of attention with surgeons from the age of Hippocrates down to the present period.

Without regard to any precise definition of polypi, modern writers have distributed tumours of this class into several principal varieties, founded for the most part upon their more obvious physical and structural properties; as soft, hard, vesicular, fibrous, fleshy, etc.

OF SOFT POLYPI.—Of this family of parasites the most considerable are probably those which have been generally called vesicular polypi. From the rapidity of their growth, they are usually of very considerable size. They are almost always connected with their parent tissue, by one stem; which how-

ever in some cases afterwards divides itself into numerous shoots, which are to be seen distributed through the entire substance of the tumour. This polypus has no particular form; but in this respect it may be observed generally to accommodate itself to that of the cavity where it is produced; and it is said frequently to present externally the appearance of having a rugose or crimped surface. It is not however multilobulated. If removed from want of good management imperfectly, a new polypus is developed in a short time after the extirpation of its predecessor. On cutting through a vesicular polypus, we meet with a resistance proportional in degree to the greater or less density and state of tension and elasticity of the parietes of its vesicles. Occasionally blood-vessels may be seen ramifying on the surfaces of tumours of this class; but in the interior of their tissue, we seldom meet with any red vessels. The colour of the vesicular polypus is not always the same; it being generally of a yellowish hue, but sometimes gray. These excrescences are of an indolent character, and totally insensible to painful impressions; it being a part of their history that no nervous fibrils have ever been seen to enter into them. M. Nauche, *Des Maladies propres aux Femmes*, p. 225, if we may judge by his description of its locality as connected with the uterus, would seem to assume as a fact, that the vesicular polypus is really sometimes a produce of that organ; whereas it has never occurred to the author to have met with a single example of a stemmed tumour of that variety, which had owed its source to any part of the mucous tissue of the womb. "These bodies," observes M. Nauche, "have more sensibility than fibrous polypi, and degenerate easily into carcinomatous affections." The author is again very doubtful of the correctness of both these propositions; but not having had extensive opportunities of acquainting himself practically with the characteristic properties of VESICULAR POLYPI, he feels that it would be both unbecoming and uncandid on his part to dispute the authority of so good a writer as M. Nauche.

FIBROUS POLYPI are usually of less volume than those of the class of vesicular tumours. Their colour is generally livid, and in some cases slightly reddish. Their tissue, for the most part firm and resistent, is but little susceptible of contusion from the application of pressure to them. By sudden and violent movements, however, and by incautious handling of their stems for the purposes of examination, they are very apt to yield profuse discharges of blood; which also are indeed sometimes encountered during the utmost stillness and quietude of the patient. Tumours of this class constitute a large proportion of uterine polypi.

As holding a middle place between vesicular and fibrous polypi we should next notice the variety of these parasite formations, which perhaps we most frequently encounter as diseased productions of the uterus; viz. such as by some authors are called MUCO-LYMPHATIC, and by others CELLULO-FIBROUS POLYPI. These tumours are said to take their origin partly from the cellular

structure immediately beneath the mucous lining of the uterus, and partly from that mucous tissue itself. Their usual size is much less than that of the fibrous polypus. Their surface is smooth and moist; and they annoy more by the irritation of their presence and fretting of the external genitals, where they are always felt to be in contact, than by any deep-seated pain of the parts within the pelvis produced by their pressure. They are generally accompanied by a very constant and often by a profuse leucorrhœal discharge, but seldom by dangerous hæmorrhages. This is the variety of polypus which most frequently takes its origin from the actual orifice of the uterus; where its tissue being visibly different in its hue and fabric from those of its parent source, it may with the aid of the speculum be seen to insinuate itself by a very narrow stem into, and apparently through, and to some depth beyond, the mucous membrane of the part.

SPONGY and GRANULAR are epithets which, as applied to polypi, have been somewhat differently employed by different writers. The term spongy, for example, has been used by some in the sense of vesicular, by others in that of cellular, and by a third party to characterise tumours of an actually GRANULAR structure, whilst the very existence of a primarily granular polypus has been positively disputed by several estimable writers; the characteristic texture of polypi of that name being the result, as assumed, of a gradual conversion of them into that form, from an apparently very different original fabric, viz., from that proper to fibrous tumours. Again, the generic term HARD, may be supposed to include more than one original variety of polypous tumours possessing the attribute of great firmness and condensation of their constituent tissue: although it is employed by some writers as descriptive only of fibrous tumours, and their supposed conversions into other and more malignant forms. The following case may serve to correct that, as the author believes, most mistaken view of the subject. A young lady, resident in India, of about the age of twenty-five, became the wife of a gentleman many years older than herself. She was of a sanguineo-lymphatic constitution. In the course of two or three years after her marriage, her health declined; and she became the subject of considerable irregularities of the menstrual function. After the lapse of two or three more years, her health became still more broken by occasional and profuse hæmorrhages from the uterus. In the ninth year of her marriage, she was advised by her medical friends to leave India forthwith, and to return to England. On her arrival in this country, in a state of extreme FEEBLENESS from tremendous floodings which she had sustained during the voyage, she was placed without delay under the author's professional care. On the occasion of the first visit he paid her, he found her stretched on a sofa, very pale and exsanguined, and without a perceptible pulse. On examination per vaginam, a duty by the way most unaccountably omitted by the patient's medical friends in India, a round hard tumour, of the size of a large orange, depending by a narrow pedicle from within the orifice of the uterus, was found to occupy nearly

the whole of the vagina. A ligature was thrown over its stem in the course of about an hour; after which the patient never sustained the loss of a single ounce of blood. On the third day subsequently, the ligature and its canula were found loose in the bed. On particular examination of the texture of the tumour, it proved to be one of very firm tough consistence; having no resemblance nor even analogy of structure either to cartilage or ligament, and yet apparently having no property in common with any fibrous tumours that the author has ever seen. An incision, which was made across it and into its centre, with a good-edged scalpel, was not effected without some difficulty. The surfaces of section presented the appearance of perfect smoothness, and consequently of the perfect absence of any trace of a striated or fibrous texture. Nor did any part of it exhibit any disposition to decay, malignancy, or solution of continuity of any kind. Its colour was uniform, and of rather a lightish yellow. Its surface was somewhat wrinkled and uneven, covered with a thinish investment of a cellulo-fibrous tissue, consisting, as it would seem, of an expanded prolongation of the subject material of the pedicle. From the perfect soundness of every part of that tumour, it is quite certain that it never could have sustained any essential conversion from its original fabric; and yet it presented, and continues to this day to present, a perfect homogeneity of the interior of its structure. The conservator of the museum of anatomy in the University has instructions to show the tumour now described to any professional gentleman who may feel a wish to compare the specimen with the description here given of it. Mrs. J., the subject of the case, soon recovered after the extirpation of her polypus; and has since been married for more than twelve years to a second husband, by whom however she has had no children.

It has been assumed, that the granular polypus, which is one of a consistence which could scarcely come within the description either of a soft or of a hard tumour, must be what the author cannot be induced to believe, viz. an example of a conversion, see the Baron Boyer on the subject, of one well-known and established variety of disease into another presenting no sort of analogy to its original. A married woman, of about thirty-seven years of age, had been the subject for several years of occasional profuse discharges of blood from the uterus. About five years ago, after having been brought into a very infirm state of health, she was induced to quit the country and to take a residence in London, with a view to obtain at least a change of medical advice. Shortly after her arrival she was seen by Mr. Henry Wakefield, of Pentonville; who immediately recommended her to take the author's opinion on her case. On examination per vaginam, that passage was found charged with a tumour of about the size of a largish melon; elastic, somewhat solid, but scarcely giving the impression of a degree of resistance which could admit of being properly expressed by the term hardness. It was appended to the anterior lip and left commissure of the orifice of the uterus by a **VERY THICK STEM**. Its presence was accompanied by a profuse and offensive fluor albus.

The constitutional symptoms were such as to indicate the propriety of early interference; the patient being in a state of extreme marasmus. On the subsequent day, therefore, the tumour was actually removed; not indeed intentionally, but by an attempt which had for its object only the strangulation of its stem by a ligature. It was so large relatively to the space which it had to occupy, and it bore so strongly on the flooring of the pelvis, that it was found exceedingly difficult to carry up, by means of the usual apparatus, any sort of ligature to its proper destination beyond its body; and finding the more depending part of it ready, as it were, to engage at the external orifice, the hand was very gradually and cautiously insinuated on one side of it, by which its broad shoulder, and the inferior part of its stem, which was nearly as broad, could be pretty firmly grasped: and thus the whole of the body of the tumour was ultimately brought through the external orifice, and exposed to view. The diameter of its body was about four inches, and that of its stem at least an inch and a half. A piece of broadish tape was thrown temporarily round the stem, to secure a steady hold of it, in order to obtain a more perfect opportunity of ascertaining the length and other dimensions of that portion of it, and more especially the precise locality and extent of its origin; which proved to be the anterior labium and left commissure of the os tincæ, together with a considerable portion of the anterior and left lateral surfaces on the INSIDE OF THE ORIFICE OF THE UTERUS. This extraordinary extent of origin, while it accounted sufficiently for the formidable thickness of the stem, suggested no very agreeable anticipations as to the probable issues of the case. But it having been already a point concluded upon that the patient's death, within a short time, probably within a very few days, was become inevitable, without the removal of the polypus, and this opinion having been distinctly communicated to the husband, it was forthwith determined to proceed, at all risks, to the accomplishment of that object. Accordingly, whilst his friend Mr. Wakefield brought down the tumour as low relatively to the vulva as he well could by means of the tape, which had already been thrown round its stem, the author passed a loop of much stronger tape over the pedicle higher up. After conveying the noosed part of this second tape to the very extremity of the pedicle, and into contact, as could be distinctly ascertained by the index finger of the left hand with the orifice of the uterus, the author proceeded to the process of tightening it; and presuming from the unusual thickness, and from the judgment he had formed of the solidity and firmness of that part of the tumour, he exerted considerable personal strength in the effecting of that object, and was in fact proceeding to exert more, in short, nearly all he possessed, when he suddenly felt the resistance giving way, and as he thought, the noose of the tape entering into the very substance of the body which it embraced. Upon passing up a finger to the part, he soon discovered that such was really the fact; but that happily it was followed by no discharge of blood. After waiting two or three minutes, and still no hæmorrhage present-

ing, he determined if possible to finish the operation, by passing the noose of the ligature entirely through the substance of the stem. The tumour was, accordingly, thus at once entirely removed, with the exception of some short jagged projections of carinculo-membranous tissue, which were felt like loose sproutings from the orifice of the uterus, and adherent especially to the interior surface of the left lateral parietes of the vaginal part of that organ. The results of this operation proved infinitely more successful than could have been fairly anticipated. It was in the first instance accompanied by no considerable discharge of blood, and subsequently by no formidable constitutional symptoms. The body of the uterus, it could now be easily ascertained, was of natural size. Its wounded vaginal portion, or rather that of the remnant of its morbid appendage, furnished a considerable quantity of a sanguineo-purulent discharge, for about a fortnight; the patient, however, in the mean time, continuing daily to improve in strength. In about five weeks after the operation, it was ascertained that the shreddy remains of the stem of the polypus were no longer to be felt, and that the part which they recently occupied was very nearly reduced to its natural size, and in possession of its usual sensibility. The subject of the case is now living, enjoys a moderately good state of health, has experienced no symptoms indicating a return of her complaint; but has had no children.

We have here an example of a tumour of large size, the stem of which, and that was unusually large, had encroached dangerously on the structure of some considerable blood-vessels of the uterus, being removed violently and at once, and yet without being followed by any evidence of its having been malignant, or of its having produced, on the tissues to which it was attached or contiguous, any effects which could be properly expressed by that epithet. The interior of the tumour was perfectly granular, as was also that part of its pedicle which the noose of the ligature had been forced to make its way through. The surfaces of section of the pedicle presented indeed the appearance of being half-cut and half-lacerated, or rather lacerated on the outside, where the investing tissue was of a cellulo-membranous and fibrous character, and of having been broken within, so as to exhibit something of resemblance to those of a piece of thick gingerbread, when divided by the act of breaking and not cutting. The parenchyma, which indeed constituted the mass of the tumour, was not indebted for its peculiar mode of organization to any supposable deficiency of vitality; for immediately after one of the torn surfaces had been separated from its counterpart, many guttules of blood were seen starting from the granular interstices of both. As this tumour was not a malignant one, so also was it not at all an example of a fibrous polypus; if indeed we except its capsule or investing tunic, which seemed to consist of a muco-cellular tissue, derived most probably by gradual prolongation from the immediate seat of origin of the entire polypus.

In some tracts upon this subject, we meet with the distinction of scirrhus and carcinomatous polypi; in consequence possibly of these descriptive epithets

having been mistakenly applied to polypous tumours of a certain amount of density, whether in a sound or in an ulcerated state; these parasites of course being subject, in common with more regularly organized structures, to destructive ulceration of their tissue. This subject will be more easily explained and understood under its proper head, viz. that of cancer of the uterus primarily, than it can by any attempt to illustrate it as a part or symptom of another disease.

Uterine polypi, of whatever variety of tissue, although seldom unattended by some obscure indications of a diseased condition of that organ, are nevertheless not usually accompanied by symptoms of great severity during the earlier stage of their development. The phenomena ordinarily encountered during that period, are, a sense of weight about the small of the back, and within the cavity of the pelvis; pains about the hips and loins; inconsiderable hæmorrhages; occasional voiding of coagula of various sizes, preceded and sometimes succeeded by that of corresponding quantities of serous and leucorrheal fluids. As the polypus advances in its growth, it may have the effect of producing symptoms which may be mistakenly presumed to indicate the presence of pregnancy, or, in very young women, an approach to the first period of menstruation, and in subjects more advanced in life, to that of the cessation of the menses. During this stage of the disease, an examination per vaginam might often and in peculiar circumstances not be submitted to; but if proposed and acceded to, it might not necessarily lead to any satisfactory discovery as to the nature of the case; inasmuch as nothing might be absolutely made out by it, beyond the simple fact, and possibly not even that, of some inconsiderable increase in the size of the uterus. Such are the more local symptoms incident to the first development of polypous tumours within the body of the uterus. The constitutional symptoms are scarcely more pathognomonic and decided. When a woman begins to be the subject of preternatural formations within the uterine cavity, she usually becomes the subject of general indisposition, loss of appetite, dislikes for particular foods, loss of spirits, indigestion, a sense of fulness and distention of the stomach, even after light meals, the noisy state of bowels called *borborigmi*, disturbed sleep, palpitation of the heart, and a number of other teasing and troublesome symptoms, which could not be assumed to be indications necessarily and unequivocally of uterine irritation; or which, if so considered, could furnish no clue to the discovery of any specific cause of that irritation. After any considerable development of the neck of the womb shall have taken place, the inferior part only of the body of the tumour will become accessible to an imperfect cognizance of its presence by the *taxis*. Tumours which take their origin from the interior of the neck of the uterus, find their way through its orifice at a comparatively early period. When the body of a polypus shall have effected its transit into the vagina, it will there present itself in a form and under circumstances which will generally enable a skilful practitioner to predicate more or less confidently as to its nature. When the mass of the tumour is making its

passage through the neck of the womb into the vagina, the patient has often to sustain very severe uterine pains. On one occasion of this kind the author's attendance was requested in a case of supposed miscarriage. The patient had sustained a very profuse discharge of blood some two or three days previously. On making an examination per vaginam, he found presenting at the orifice of the uterus a roundish body, which he naturally enough was led to presume must be the produce of the conception which had for some time been reported to him to have existed. The orifice of the uterus was dilated to about the extent of an inch and a quarter, and the presenting substance was felt from time to time to be propelled by active contractions of the uterus. Its progress however was so slow and gradual, that it did not clear the os tincæ until after the lapse of four days from the commencement of the process, or rather from the commencement of the author's attendance. At this stage of the proceedings, it was very easily ascertained that the presenting mass could not be an ovum, nor even the placental portion of one; a small but firm stem, which could be felt adherent to the tumour, and connecting its body with the interior of the uterus, furnishing of course sufficient evidence of the true nature of the case. In the course of a few hours, a ligature was thrown over the stem of the polypus, and tightened daily until the whole came away, which however did not take place until after the expiration of an entire week. It was then shrunk into less than half its former size, and was obviously a specimen of a cellulo-membranous polypus.

During the more considerable development of the neck of the uterus which we presume to precede and accompany the passage of the body of the tumour from the uterine cavity into the vagina, the patient is especially subject to profuse and repeated hæmorrhages; she is observed consequently to become exceedingly pale and delicate, easily overcome with the least exertion, liable to be frequently seized with faintings and palpitations of the heart, and to become the subject of all sorts of dyspeptic symptoms. This description may not absolutely apply to all cases; and the author has indeed seen several cases of polypi originally uterine, which had not been complicated with hæmorrhages either before or for several years subsequently to their transit to the vaginal passage, where indeed even then they seemed to produce so little inconvenience as scarcely to affect the patient's general health. It is a general opinion that the pediculated form is given to tumours of this description by the pressure which they have to sustain from the neck of the uterus during their passage from the uterine cavity into the vagina; and this may often be, and is no doubt, the case; whereas however much more frequently, the author is disposed to believe, THESE PARASITES ARE ORIGINALLY, OR BECOME AT A VERY EARLY PERIOD OF THEIR DEVELOPMENT, PEDICULATED. Fibrous polypi are almost always examples of pediculated tumours at a very early period of their growth in utero; See pl. xvi. fig. 1 at b; where this point is beautifully illustrated. The preparation which the print very faithfully represents, forms a specimen of considerable

interest is in the obstetric section of the museum of anatomy of the University ; where of course it may be seen by any visiter properly introduced as a member of the profession. Subsequently to the passage of the tumour from the uterine cavity into the vagina, the patient's general sufferings are often considerably exasperated. She then comes to be subject to more direct pressure both upon the neck of the bladder and the urethra, and upon the rectum. The pedicle is made much more liable than previously to be put violently upon the stretch, which must seriously expose the patient to much additional risk of hæmorrhage. The symptoms thus secondarily produced will of course vary in their amount and intensity according to the specific character and rapidity of development of their occasional cause. If the polypus be of a nature to acquire an unlimited increase of volume, a time will eventually arrive when it will actually force its way out of the cavity of the pelvis altogether. Here of course it will be found exceedingly accessible to any surgical treatment deemed most advisable or best suited to the particular case : but even here, it has been allowed to remain in some cases for years without any sort of attempt being made to remove it ; or, as in some other cases, it has been removed under the erroneous impression that the presenting tumour was no other than the head of a child propelled into the vagina by the ordinary action of the uterus.

The following abridged report of a case of this kind may suffice to show how such extraordinary mistakes may happen in the practice of ignorant and inexperienced practitioners. A woman, a resident at Lyons, who had sustained considerable discharges of blood from the uterus for several years, at length believed herself pregnant. When advanced as she supposed into her sixth month of gestation, she experienced pains which made her apprehensive of a premature labour. She accordingly sent for a midwife, who after having made the usual examination, assured her that it really was so, that in fact the child was already beginning to present, and that therefore she should not leave her. Consistently with the spirit of this friendly arrangement, she gave her the benefit of diverse professional services, by which from time to time she gave her much pain, during the greater part of the day. About five o'clock in the afternoon a medical gentleman in the neighbourhood practising midwifery was sent for, who, concurring with the midwife in her opinion that the patient was really in labour, assured her that she would be delivered in a short time. He ordered therefore every thing necessary for the reception of the child to be got ready. In a short time afterwards he observed that the head of the child was making rapid advances, and that the patient was very nearly approaching to the termination of her sufferings. She however passed the whole night and the whole of the following day in the midst of great suffering. In the course of that evening she was deserted by both her obstetric attendants, who did not venture afterwards to return, fearing lest they might find her dead. A physician accompanied by another practitioner of midwifery were then consulted. The latter functionary, after greatly blaming his obstetric predecessor, assured all the parties that

he could most distinctly recognise the presenting head of the child ; but that it could not be brought through without the aid of instruments. He engaged however to effect the delivery the moment he was permitted to operate. The patient was then placed across her bed, and the accoucheur commenced the operation of delivering her with the crotchet. The pretended foetal head having been duly transfixed by the deadly instrument, he pulled with so much force that the assistants who held the patient could no longer sustain that duty ; the practitioner in the mean time having broken off the transfixing claw of his crotchet. Not despairing however of his object, he introduced another implement of the same kind, with which at length he brought away his prize. But what was the surprise of the assistants when they saw instead of the child, so long and repeatedly promised to be produced, a mass only of shapeless flesh ! The fact was that the miserable pretender to obstetric knowledge, who performed the barbarous preparation just described, had not only effected the removal of the polypus, which had been the sole cause of all the patient's grievances for so many years, but also the womb itself, together with its natural appendages. The most extraordinary part of this history yet remains to be told. The fleshy mass just stated to have been dug out of the poor woman's pelvis was taken by the operator himself to the Hôtel Dieu, to be inspected by the faculty of that Establishment. The examination of it was committed to the charge of M. Figuet, then one of the students of medicine at the Hôtel Dieu, but afterwards a Master in Surgery at Lyons. The uterus was entire, of the size natural to it in its unimpregnated state, and in the best possible condition. The broad ligaments were observed to have been torn off from near their attachments to the uterus ; the portions left still attached to the left side being something longer than those left on the right. The vagina, which had been torn off circularly, was inverted upwards so as to form a pouch, in which was concealed the uterus. Inferiorly and a little to the left side of the os tincæ there was seen suspended a tumour of a pyriform shape, of about the size of a goose's egg and of singular hardness. It had been shockingly torn both in extent and depth. The attachment of the pedicle to the left side of the orifice of the uterus had had the effect of deranging its position relatively to the other. The aperture into the cervix was unusually small, and the passage itself was scarcely permeable to a probe.

The proper tissue both of the body and neck of the uterus presented nothing remarkable." After giving the names of the medical gentlemen who attended the above examination, M. Figuet concludes his narrative with the statement that the poor woman, who had been treated with much violence and butchery, and after having been deprived of her uterus and some of its most important appendages, was fortunate enough to escape with her life, and only subjected subsequently to a perpetual incontinence of urine. *Traité sur Divers Accouchemens et sur les Polypus de la Matrice. Par M. G. Herbiniaux, tom. ii. p. 19.*

It is in the nature of some polypous tumours, as already observed, to increase in their volume indefinitely until they shall have so completely blocked up the pel-

vis, as to be forced out of it by the dint merely of their gradually increasing development. When the polypus, under these circumstances, happens to be of a round and well-defined form, and of a moderately firm and compact tissue, it will often effect its escape quickly, and, as it were, all at once, in consequence of a sort of expellent action of the diaphragm and abdominal muscles being instituted for that purpose. But when of softer structure, it may present itself at the os externum, and gradually produce a sufficient development of that part to admit of the engagement of successive portions of it within it, and of the subsequent protrusion of the same portions of it beyond it. Tumours of this kind, partly perhaps from their original conformation and character of tissue, and partly from the fact just stated of the comparative facility with which they effect their protrusion through the external orifice, seldom assume the ordinarily characteristic pyriform figure of the more common varieties of polypi. The author's understanding of the sort of tumour which he here especially refers to, may perhaps be made more intelligible to the reader by a perusal of a single case in illustration of it. The patient was a poor woman, of the age of about forty, residing in Dorrington-street, Holborn, and neighbour to one of the midwives of the Maternity, who, although the case was not such as to entitle the subject of it to the services of that Institution, requested the author to have the kindness to see her. The patient stated that she had been the subject of occasional discharges of blood from the uterus, both during her menstrual periods and at other times, for about eighteen months, and that for upwards of six months she had felt a fleshy sort of substance presenting at the vulva, where, from the pain and offensive discharge which accompanied, it occasioned her great annoyance and distress. On a careful examination of the protruding body, both by the taxis and the eye, it was found to be a fleshy-looking substance protruding from the vagina, and measuring, from its extremity to the boundary of the vulva, at least six inches in length. Its form was flattish, rounded at its inferior extremity, and about as broad and thick as a beast's tongue, having its broad and flat surfaces directed towards the inside of each thigh. The colour of its external surface was a dirty brownish red, occasioned probably by its being constantly suffused by a discharge of the same colour from the vagina. That of its internal tissue was a deep yellow. Its texture was smooth and uniform, and its consistence was nearly that of the interior of a baked batter-pudding. This fact was ascertained, during the handling of it, by an accidental extension of a fissure which presented itself, in common with several others, on its edged boundary behind. These fissures had probably been occasioned by the action of the posterior fourchette of the vulva on the substance of the tumour during successive stages of its descent. Its broad surfaces were slightly uneven; but, from the great softness of the substance within, they could not be said to give the impression of roughness. So great indeed was this softness, and so delicate and lacerable was the investing membrane, that an accurate examination of the source of the tumour could not even be attempted without incurring the risk of

tearing it. In order therefore to effect its removal, the author got an old pair of common midwifery forceps flattened in such a manner as that one blade approached the other to the distance of about half an inch all the way from the tip of each blade of the instrument to its shank. These he covered over tightly with wash-leather, so as to include each fenestra within opposite parallels of the leather. The blades of an instrument thus constructed occupied but a small space, and could therefore be passed up pretty readily on either side of the protruding tumour. This was accordingly done, and the tumour was thus withdrawn without being materially torn, and at very little expense of force of traction. The operation was attended with little or no hæmorrhage. The pedicle of the tumour was unusually small, and consisting of a shreddy, silky, membrano-cellular texture. On the removal of the body of the tumour, a considerable part of its stem was indeed left behind, attached to the orifice of the uterus, and, as the author afterwards ascertained, a little within its anterior lip. It was however soon removed, very effectually, by means of a common polypus forceps. In the course of about three weeks the orifice of the uterus presented no peculiarity that could be distinguished by the taxis. Thus was the poor woman permanently relieved from the annoyance and danger of her polypus. But being of a weak leucophlegmatic constitution, she continued for some years afterwards the subject of a profuse leucorrhæal discharge. At the age of fifty-one she died, in great misery, of a malignant disease of the womb.

Another case here suggests itself to the recollection of the author, of a large tumour, excrescent from the uterus, and protruding to a considerable distance beyond the external parts, which never assumed the pyriform figure of an ordinary polypus. It was one of very large size, and nearly of equal diameter, viz. about four inches, along the whole of its length. Its subject was a lady of about fifty years of age, who had had no children, and had being ailing for many years. With the exception of fluor albus and occasional derangements of the catamenial function, she had not sustained any marked disease of the womb until within fourteen weeks of her death, when she experienced a profuse discharge of blood from the vagina, which left her in a state of great weakness. Subsequently to this period she was never quite free from a stillicidium, of a reddish hue, from the genitals; but at intervals of from four or five days to twenty, she experienced hæmorrhages of great amount. After suffering extreme misery for several weeks, from the great difficulty she found in voiding the contents of her bladder, she consented to an examination of her case per vaginam, which had already been urgently proposed to her from time to time since the commencement of her indisposition. Her medical attendant found a large mass of fleshy substance blocking up the entire cavity of the pelvis, and bearing firmly on the os externum and perineum. The genital surfaces were exceedingly painful to the touch. What might be the nature of this tumour could not be ascertained, as it was found impossible, partly from the painful and

contracted state of the os externum, but principally from the violent temper of the patient, to institute a satisfactory examination of its upper part. Growing rapidly as it did, it effected, in the course of less than a week subsequently to the imperfect examination just alluded to, a partial protrusion of its body through the external orifice, and from thence projected rapidly forward without undergoing any diminution of its diameter, until, at the end of three months from the first hæmorrhage, it arrived at an amount of prolongation, beyond the labia pudendi, of something more than five inches. On the day before the patient's death it was deemed advisable to obtain further professional advice. When the author arrived at the patient's residence in Surrey, about three-and-twenty miles from London, he found her in a rapidly sinking state. He therefore could only acquaint himself with the general appearance and bulk of the tumour. Its surface was generally knobbed, or lobulated, so as to present an appearance not very unlike that of the uterine surface of the placenta; whilst, however, on the most careful inspection, it seemed destitute of that smoothness and polish which are usually given to regular pyriform polypi by an investiture of cellular tissue. Its temperature was sensibly less than that of the trunk of the body; although it was not without some warmth. Pressure applied to it caused much pain of the external genital tissues which surrounded it, and which its apparently irreducible bulk had the effect of exposing, without remission, to a most distressing state of distention and development: but upon the application of a lighter weight to it, and even on puncturing it rather deeply with the point of a sharp needle, no sensation of any kind was produced. The simple handling of it communicated the impression that the interior and greater part of its substance must have been of much firmer consistence than its surface, which indeed was already considerably advanced into a state of decomposition. The facts of this case, as now sufficiently detailed, were obviously such as to repress all hope of advantage from any further use of medicines, or from any possible efforts of the art of surgery. Nothing therefore was proposed to be done, and the patient died on the evening of the same day.

What was the proper nature of the above disease? The author regrets extremely that a post-mortem examination was refused, even to the extent of an incision into the interior of the tumour whilst in situ. It is submitted as a matter simply of opinion that it was a specimen of a highly vascular sarcoma, generated in the first instance, and subsequently rapidly evolved, by some malignant disease of the uterus itself. It should indeed have been stated at the commencement of our narrative, that the hypogastrium was considerably elevated by the presence of a substance continuous from it into the pelvis, and especially remarkable for the inequalities of its abdominal surface. Upon applying a very moderate pressure to this part, the patient experienced the most acute pain, and expressively observed that it had formed a part of her disorder from its commencement.

The peculiar malignity of the above case was such, in many points, as might warrant our placing it in the class of excrescent tumours from the uterus to which Levret gave the designation of *VIVACE*. "There is a species of uterine polypi," observes that eminent writer, "which I shall call *vivace*. These excrescences, although benignant in appearance, inasmuch as they are generally accompanied by no lancinating pains, nor by a sanious discharge, but always with hæmorrhages in common with the greater number of benignant polypi, ought nevertheless to be deemed incurable; since they are but too frequently vegetations from ulcers of the interior of the uterus. I have seen several examples of two varieties of these excrescent tumours from the uterus. Of these varieties one would seem to consist of an uncertain number of *DIGITAL* vegetations of different lengths and thickness, from which portions from time to time fall off, for the amelioration, as it might appear, of the condition of the patient. The second variety is so far remarkable, that it consists of only one mass, but nevertheless with this difference, that being ordinarily semi-globular, it always increases the size of the uterus, and is a cause of its being more or less painful during the whole period of the malady; and although the vagina might be quite filled by it, the uterus, in the mean time, is not relieved of its presence. It therefore follows, that not only is it generally impossible to destroy the proximate cause of its fungosities, but that it would be labour lost to attempt to effect their extirpation. It should therefore never be deemed necessary to have recourse to the use of a ligature in these cases, inasmuch as the intention proposed to be answered by ligatures could not be expected to be fulfilled, and thus a procedure highly valuable in proper cases, might very unnecessarily in these become liable to discredit in consequence of its misapplication. I am fully convinced, that under this form of malignant disease of the uterus, I have repeatedly seen cases which produced new vegetations in direct proportion to the frequency of my attempts to effect the removal of the preceding ones. Under this impression, I would here observe, and I believe could prove it, that in addition to the circumstances already noticed as indicative of the peculiar character and incurableness of the tumours under consideration, these uterine fungi are not covered by a membrane; or, if they are, that it must be of so delicate a texture as not to be easily recognised; whereas true polypi are invested by membranes which cannot fail to be recognised, and often by membranes of no inconsiderable thickness." *Mémoires de l'Académie Royale de Chirurgie*, edit. 4to. 1778, vol. iii. p. 558.

The proper pathological character of the disease described in the preceding extract may be further illustrated by a reference to an actual case of it. For this purpose see Herbiniaux' *Essay on Uterine Polypi*, vol. ii. p. 40. "On the 5th of January, 1804, M. Levoz, a merchant of Liege, in consequence of having heard that I had published a new method of tying uterine polypi, came over to Brussels to request me to see his mother with as little delay as possible. We set out the same evening, and arrived at Liege at eight o'clock the next morning. The old

lady, aged seventy-four, was much emaciated by a hæmorrhage, which had continued, with scarcely any intermission, for eight-and-forty hours; and which, during the three preceding years, had often reduced her to great extremities. These hæmorrhages were occasioned by a tumour in the uterus, for which tying, after the manner of Levret, had already been suggested as the proper remedy. This tumour, which I took for a polypus, presented itself at the mouth of the uterus. I could pass my finger round it, and could satisfy myself that it was free from all attachment to that part. It was of about the size of an orange, but somewhat larger at its lower part than higher up; but its pedicle was so short that I could not make it move within the uterus. Its consistence seemed to me to be soft, and its surface very unequal. I confess that it did not occur to me at the time that it could be a VIVACE.

In the mean time I had been informed by M. Levoz that each nostril was also similarly charged with polypi; which appeared to indicate a vicious state of the humours as a cause. I determined however to apply a ligature to the pedicle of the uterine tumour, in order as soon as possible to put an end to the hæmorrhage which threatened the patient's life. As I could not remain at Liege long enough to watch the result of my operation, I requested the assistance of another surgeon, to whom I could entrust the superintendence of the case in my absence. M. De Bruz, an eminent practitioner of midwifery at Liege, undertook that duty. On completing the tightening of the ligature, the neck of the tumour was almost as large as its base, which made me doubtful of the success of the operation. In the latter part of the day I took my departure for Brussels, having left instructions with M. De Bruz as to what might be necessary to be done in my absence. On the 8th I received a letter from M. De Bruz to inform me that the patient had been much better since the operation. The ligature was tightened on the ninth, tenth, and eleventh, and on the latter day with so much force that it gave way, leaving the whole of the tumour still attached. After this unfortunate accident, M. De Bruz made an attempt to obtain a purchase of it with my polypus forceps, with a view, if possible in that way, of effecting its final removal. He was able, however, to bring away only a fragment of it. During his subsequent visit he found that what remained had re-entered the uterus, which he found so low in the pelvis that he could easily introduce his finger into its orifice, where he found small portions of the polypus presenting and dangling from the central mass. Under these circumstances I was requested to pay my patient another visit. On my arrival I found her in a sufficiently good condition, and well disposed to submit to the application of another ligature. I accordingly applied one, and the tumour fell off in about thirty hours afterwards, but without a prosperous issue. The uterus did not subsequently close. M. De Bruz reported that upon again introducing his finger into it, he encountered several fragments of the polypus. These fragments no doubt were so many VIVACES. In fact the uterus and the vagina were

soon afterwards charged with the produce of the disease, and the patient died in about six months." *Traité sur les Polypes.*

The following case by the same able writer would appear to establish a fact, otherwise sufficiently probable, viz., that the malignant affection under consideration must essentially have been a constitutional disease. "On the 28th of September, 1814, the Abbot of Gembloux requested my professional attendance, at a small town of the same name, to give my opinion on a case of his sister-in-law, who, it was stated, was become a subject of a polypus of the womb. It had been arranged that I should meet in consultation M. Dumoulin, physician to the abbey, and M. Brunette, obstetric surgeon at Namur.

From the great care which nature is observed ordinarily to take in providing for the security of the produce of conception by sealing up the uterus against the invasion of causes of interference with the due development and maturation of the ovum, it should appear a priori improbable that such development and maturation, not to say even conception itself, should ever be found compatible and co-existing with the pre-occupancy of the neck and orifice of that organ by the stem of a polypus. The fact of this complication is, however, indubitably established by many very well-authenticated cases. "In the month of April 1752, M. Guyot was requested to see a female recently delivered, who was supposed to be suffering from the effects of inversion and prolapsion of the uterus. But upon finding that the patient's pulse was good, and that five hours had elapsed since the delivery without her having sustained any loss of blood, and recollecting that the midwife had stated to him that the same tumour had presented even before the birth of the child, he conjectured that the case would prove one of a very different disorder from inversion and prolapsion of the womb. He therefore examined into all its circumstances with great care, and discovered that it was a variety of uterine polypus, having a stem attached to the interior and to the right side of the cavity of the recently gravid uterus. Its pedicle, which he found elsewhere totally free and unattached throughout the whole of its course, was compressed into a flattish form, of about two fingers' breadth, of different thickness in different parts, and consisting of a solid tissue. Its body equalled in volume that of a new-born child's head at the full period of gestation. M. Guyot considered it his duty as soon as possible to have recourse to the use of the ligature. The tumour in the mean time was sustained by napkins. The patient was advised to observe the most perfect repose. But acute pains of the loins and of the right groin supervening, determined M. Guyot on the following day to cut off the tumour immediately below the ligature; and it fell off in three days afterwards. The extremity of the pedicle, which subsequently made its appearance at the orifice of the vagina, was already beginning to suppurate. During the progress of that suppuration, it was indeed wholly withdrawn into the interior of that passage. In other respects the patient recovered without accident." This case, it is presumed, furnishes ample proof

that the polypus must have existed during the pregnancy. *Mémoires de l'Académie Royale de Chirurgie. Mém. sur les Polypes de la Matrice et Vagin.* par M. Levret, tom. iii. art. 3. p. 543. M. Levret, in the same article, quotes two other equally important and interesting cases in illustration of the same fact. See also, in further confirmation of the subject, *Smellie's Cases. Collect. ix. case 2. p. 104.* Edition of 1754. We again meet with an analogous case of a tumour within the vagina of a woman who had advanced into the ninth of her pregnancy, in vol. xxx. p. 518 of the *Old Journal de Médecine*, communicated by M. De la Mare. The polypus was treated by ligature. The patient was happily delivered in twenty days after the cessation of all purulent discharge subsequent to the falling off of the ligature. See moreover several cases of similar description recently published by Madam. Boivin and her Colleague in an article entitled, "*Plusieurs cas des Polypes qui n'ont pas empêché la Fécondation, Traité Pratique, etc. vol. i. p. 380.*" Of all the cases which we find recorded on this interesting subject, the author has most satisfaction in quoting that of his late venerated friend Dr. Denman, as published in the twenty-seventh volume, p. 467, of the *Medical and Physical Journal*. "On the 17th of March 1811, the wife of, the mother of many children, was delivered of a female child after an unusually severe labour of several hours duration. During the labour, a tumour was pushed down before the head of the child, and towards the ossa pubis. The same kind of tumour, though far less in bulk, HAD BEEN OBSERVED in the two immediately preceding labours: but as it had been retracted after the birth of the children, and was followed by no inconvenience, particular attention was not paid to it. On the present occasion the tumour was not retracted, but remained without the os externum. On examination it was found a soft fleshy substance of a deep red colour, near the size of half the head of a new-born infant, and it appeared to have been bruised by the pressure it had undergone in the passage of the child through the pelvis, being partly covered with a thick layer of coagulated blood. As the circumstance was new to the two practitioners who attended the patient, a third of much professional eminence was called in, in the evening of the same day, who entertained no doubt of its being a polypus. On the following morning a ligature drawn moderately TIGHTLY was applied, for the purpose of promoting its separation. For a few hours after the application of the ligature the patient continued easy; but towards evening, she became restless, and so continued through the ensuing night. On the 19th, the tumour being apparently little altered, and the ligature slackened, another was applied, with the view of more speedily and effectually stopping all circulation through it. But so much uneasiness was occasioned by the new ligature, that it was judged expedient to remove it in the evening; and she was instantly relieved from the pain she suffered. To quiet the symptoms of irritation which from the beginning had been considerable, from ten to twenty drops of the tincture of opium had been given every six hours; and throughout her illness the bowels were occasionally relieved by clysters. The tumour was now so much increased

in size as to render the introduction of the catheter, which from her delivery had been necessary, very difficult; and the surface of it had assumed a darker appearance, particularly towards the back part of it. From this time the symptoms of debility and irritation were much increased; her pulse was feeble, irregular, and not less than one hundred and twenty in a minute: the skin hot, but yet always dry; and her thirst was urgent. On the 23rd, in the morning, the patient was attacked with convulsions, which returned at short intervals during the whole of the day, and for many hours of the following night. While those continued she was able to take very little nourishment, and scarcely to speak intelligibly. Early in the morning of the 24th the convulsions left her, and she began to revive: her pulse was stronger and more irregular, and the power of taking nourishment and of speaking more distinctly returned. She had indeed a craving for food; but then this was incautiously given, and her stomach was incommoded by it.

By a profuse foetid and somewhat purulent discharge, the tumour was soon considerably lessened. In a few days, the anterior part of it sloughed superficially, and the whole of it had a fresher appearance. Still it occasioned much inconvenience, and there was a frequent occurrence of forcing pains, as if the uterus was in action to exclude something more out of its cavity, or to eject the tumour out of the vagina.

In this state the patient continued for several weeks, suffering now and then much pain and distress, unable from weakness to assist herself in any degree, and the bulk of the tumour was nearly stationary. We were deterred from applying another ligature by the aggravated disturbance and irritation which had been raised by the former ones. But about nine weeks after her delivery we took what was considered as a favourable opportunity, and ventured to apply another ligature. This produced much the same symptoms as the former ones; much local and constitutional irritation, sloughing of the surface of the tumour, with increased foetid discharges; but there was no material diminution of the size of the tumour; and this ligature was therefore removed.

We were now hopeless, at least very doubtful, of the possibility of a perfect cure, and for the present satisfied ourselves with endeavouring to alleviate the sufferings and support the strength of the patient. In these respects we were ably assisted by the constant attention and care of affectionate relatives and attendants.

About four months after her delivery, the general health of the patient being much improved, she herself was very desirous that another attempt should be made to extirpate the tumour, which was very troublesome and on many accounts very disagreeable. Accordingly another ligature of strong packthread was fixed and drawn very tightly round the neck of the tumour, now much smaller and more easily accessible than when the former attempts were made. The pain, which from the first protrusion of the tumour had been in a greater or less degree almost incessant, was immediately abated, and after a few days

the bulk of it sloughed away. But a small portion of it, exterior to the ligature, had a fresh appearance, and looked as if it were disposed to sprout again. To this another ligature was applied, which, after a few days more, completely removed every part of the tumour. From that time the patient was gradually, though slowly, restored to perfect health, and resumed her wonted occupations. She has since menstruated regularly, and there remains not the least appearance nor symptom of disease, except that she has sometimes a slight sense of fulness in the umbilical region.

OBSERVATION.—It does not perfectly agree with the wish of Dr. Pope, and Mr. Tothill, surgeon at Staines, that their names should be mentioned on this occasion; but their management of the case was so intelligent and judicious that it would not be just to conceal them. Among several other things worthy of notice, one obvious, plain, and useful lesson is to be learned; viz., that in a similar case it would be highly improper to pass a ligature round the stem of a polypus before the local and constitutional irritability was appeased.

Mount-street, April 29th, 1812.

THOMAS DENMAN, M.D."

Polypi of the uterus have occasionally been found, although not frequently, complicated with prolapsions and other malpositions of that organ. It may indeed be observed, that in the greater number of cases of uterine polypi, in fact in all of any considerable volume, some amount of descent of the womb towards the outlet of the pelvis must be a natural consequence of its having to sustain the weight of the polypus when protruding and suspended from it. But cases have occurred in which the delapsion has been so great as to form complete procidentia. An instance of a case of this kind is quoted in Levet's Essay on Uterine and Vaginal Polypi, *Mém. de l'Acad. Roy. tom. iii. p. 534*, which occurred in the practice of M. Baget. That gentleman was consulted in the case of a married woman, of between two and three-and-thirty years of age, who for many years had been in an infirm state of health. It was reported to him that she had sustained a miscarriage in 1720, and in the year following a premature labour; and that after the latter event she had not menstruated for eighteen months: that during the three preceding years she had sustained profuse hæmorrhages, and that in fact she was never entirely free from a discharge of blood from the uterus. During the six months immediately preceding, there had presented itself at the vulva a soft tumour, in shape like a turkey's gizzard, which admitted of being easily reduced to its natural situation within the vagina, which however M. Baget reports it pretty completely filled. That gentleman accordingly encountered considerable difficulty in reaching the upper part of its stem. Pressure made upon the body of the polypus during such attempts produced a discharge of purulent matter from the vagina. The patient could tolerate no other position than that of lying on her back. She was the subject of constant pains of the loins, and of the parts within the pelvis, as also of difficulty of breathing, constipation, painful micturition, and, eventually, of a continued fever, with occasional exasperations,

accompanied by obstinate sleeplessness and hiccups. At this time, much fear was entertained even for her life. In about eight days after these formidable symptoms had declared themselves, the tumour protruded bodily from the vagina, and presented itself at the vulva, apparently much enlarged in its dimensions: for at this period of its development it was of the size of a bullock's heart; and although it was supported by a suspensor, the patient became the subject of severer sufferings than she had ever endured before. The purulent discharge from the vagina was ultimately suppressed, and approaching gangrene was announced by the livid appearance of the tumour and the putrid odour which exhaled from it. Under these circumstances the ligature was had recourse to, and the polypus was removed without being followed by scarcely any hæmorrhage. The patient slept between six and seven hours during the night of the day of the operation. On the subsequent day there was some fever, but it became alleviated with the establishment of a laudable suppuration; and all other dangerous or even unpleasant symptoms subsided at the same time. The ligature fell off on the 22nd day after its application, and the uterus was eventually restored to its original integrity; a fact which was confirmed in the sequel by the perfect re-establishment of its periodical function. Several observations of the same kind are quoted by M. Levret from a variety of other sources. See also an interesting narrative on the same subject in the thirty-seventh volume, p. 440, of the *Old Journal de Médecine*.

But not only are there recorded many cases of uterine polypi complicated with various degrees of delapsion of the uterus, but there are not wanting some extraordinary examples of excrescent tumours of that organ, which, in consequence of the forcible distention of its parietes they produce by their own development, and subsequently by their pendulousness from its cavity, have become eventually complicated with an absolute inversion of its entire body. Of this remarkable variety of inverson of the womb, our Plate *xxi.* exhibits the representation of a very interesting and extraordinary example. The preparation itself may be seen on one of the obstetric shelves of the anatomical museum of the University of London. The plate is indeed a faithful map of the piece of pathology which it is intended to represent. The small (a) indicates the bladder; (b) a portion of the peritoneal covering of the bladder; (c) one of the corpora fimbriata; (d) the left ovary; (e) section of the pubis; (f) an upper part of the vagina; (g) portions of the left lateral ligaments of the uterus; (h) the uterus inverted and laid open, so as to show its interior subsequently to its inversion, but originally its external surface; (i) supposed entry into one of the fallopian tubes, with one bristle introduced into it, and another passed under and supporting it; (k) the neck and body of the tumour, viz. the stem of the tumour at the two higher points on the plate where it is inserted, and the prolapsed body of it where it is seen in three several places lower down. The subject of the above case was sent to the Middlesex Hospital in a dying state. Before, however, she died, her case





was recognised, so far as it was a polypus, by the medical officers of the hospital, and especially by Dr. Merriman, who was at the period in question the Obstetric Physician to that Institution.

OF THE SEVERAL CAUSES OF UTERINE AND VAGINAL POLYPI, PREDIS-
PONENT, OCCASIONAL, AND PROXIMATE.—Among the predisponent causes, the concurrent testimony of practical writers, founded it is presumed upon very general observation, would seem to indicate the following as the most important; viz., states of uterus consequent upon miscarriages and premature labours; states of uterus sometimes to be identified with the causes and sometimes with certain results of disordered menstruation; of analogous conditions of the uterus, competent under different circumstances to produce, or to be results of, uterine hæmorrhages; states of uterus favourable to its secretion of leucorrheal or other kinds of morbid discharges; constitutional leucophlegmasia; delicate constitutional health, from whatever pre-existent causes; age between forty and fifty; over plenitude of the vascular system; a strumous habit; and possibly some other inherited faults of structure, fluids, or of functional actions.

The OCCASIONAL CAUSES are, all circumstances whatsoever which may be supposed competent to excite the uterus to morbid actions having a specific tendency to produce polypous tumours. Hence the presence of any morbid or extraneous substance within the cavity of the womb; the contact of any irritating fluid, as that of the material of leucorrhea, or even of simple serum rendered acrid by stagnation; the presence of putrid remnants within the uterine cavity of coagulated blood or fibrine, and consequently all the shocks or other states of the vascular system, which may have the effect of determining increased quantities of blood into the genital system; morbid states both of the structure and functions of the uterus itself, consequent or otherwise on undue indulgence or other abuses of the sexual passion; excessive languor of that passion, or a state of privation of the means of its gratification; such states of the uterus as are apt to be present in females affected by chlorosis; exposure of the genital surfaces to virulent or infectious agents; solution of continuity, however produced, of any of its surfaces, and especially of some of its peculiar textures, as for instance of the extreme ramuli of its arteries, which may be well presumed to be principal agents in the generation and subsequent evolution of the greater number of its diseases; morbid agency of the nervous fibrils of the part of the uterus about to become the seat of origin of a polypous excrescence, or of certain systems of nerves competent to produce an unsalutary influence upon the uterus, from a remote distance; and, lastly, morbid states and actions of those mucous membranes of the genitals which usually give origin to the growth of polypi.

OF THE PROXIMATE CAUSE OR CAUSES OF UTERINE AND VAGINAL POLYPI.—On this part of our subject we have several ingenious conjectures. According to the notions of some writers, a polypus is only an enlarged lymphatic

gland. "It is formed," observes a reporter of a valuable case upon the subject, "by a small tubercle which is generated in the lymphatic glands, by an action which very often ends in the destruction of its primitive tissue, by the sole progress of its development, and without there having been any real infiltration of tuberculous matter into the gland itself. It causes the spaces of the cellular tissue to become enlarged, the mucous membrane to be elongated, and the polypus to be formed. Yielding to its own weight and to the action of the parts which surround it, and which press upon it on all sides, it soon descends into the vagina, where it presents itself in the shape of a pyriform tumour, of which the large extremity is the depending part. F. Degnise, M.D., in a communication to the Editor of the French Journal, entitled *Nouveau Journal de Médecine*, etc., tom. i., p. 139.

Smellie, in the description which he has published of one of his cases, ascribes the same result to the morbid development of a sebaceous gland. "The patient was a woman turned of thirty, who had never borne children. One of the sebaceous glands on the right side of the os externum and close to the carunculæ myrtiformes had become as large as a middling pear, and was found hanging from the part by a long neck as thick as the little-finger, and about half a yard long, so that the tumour reached to her knees. I perceived the lower end, which was the largest, excoriated, and appearing like a herpes; although she felt no pain. From this part a small quantity of blood was discharged, DURING EVERY MENSTRUAL EVACUATION. A ligature being applied to the neck of the tumour, close to its origin, it was amputated, and the wound was cured without any difficulty." Smellie's *Midwifery*, Coll. ix. No. 1. Case 1.

Mr. Abernethy, after defining tumours to be "such swellings as arise from some new production, which had made no part of the original composition of the body," has favoured the public with an interesting explanation of his theory of their formation, which perhaps it would be best to lay before the reader in the writer's own words. "The incipient state of tumours will naturally first engage our attention; and those which perhaps form the best example and illustration of the subject, are those which hang pendulous into cavities from the membranous surfaces which form their boundaries. The cause of tumours having a pendulous attachment attracted the attention of Mr. Hunter, who made the following remarks on the formation of one on the inner surface of the peritoneum, as is related by Mr. Home, in the *Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge*, vol. i. p. 231. 'The cavity of the abdomen being opened, there appeared lying upon the peritoneum a small portion of red blood recently coagulated. This, upon examination, was found connected with the surface upon which it had been deposited, by an attachment half an inch long, and this neck had been formed before the coagulum had lost its red colour.' Now," proceeds Mr. Abernethy, "had vessels shot through this slender neck and organized the clot of blood, as this would then have become a living part, it might have grown to an indefinite magnitude, and its nature and progress would

probably have depended on the organization which it had assumed. I have in my possession a tumour which doubtless was formed in the manner Mr. Hunter has described, which hung pendulous from the front of the peritoneum, and in which the organization and consequent actions have been so far completed, that the body of the tumour has become a lump of fat, whilst the neck is merely of a fibrous and vascular texture. There can be but little doubt that tumours form everywhere in the same manner. The coagulable part of the blood being accidentally effused or deposited, in consequence of disease, becomes afterwards an organized and living part, by the growth of the adjacent vessels and nerves into it. When the deposited substance has its attachment by a single thread, all its vascular supply must proceed from that part; but in other cases, the vessels shoot into it irregularly at various parts of its surface. Thus an unorganized concrete becomes a living tumour, which has at first no perceptible peculiarity as to its nature; and though it derives a supply of nourishment from the surrounding parts, it seems to live and grow by its own independent powers; and the future structure which it may acquire seems to depend on the operation of its own vessels. When the organization of a gland becomes changed into that unnatural structure which is observable in tumours, it may be thought in some degree to contradict those observations; but in those cases, the substance of the gland is the matrix, in which the tumour is formed. The structure of a tumour is sometimes like that of the part on which it grows. Those which are pendulous into joints are of a cartilaginous or osseous fabric. Fatty tumours often form in the midst of adipose substance, and I have seen some tumours growing from the palate, and having a slender attachment, which, in structure, resembled that of the palate. Sometimes, however, tumours do not resemble in structure the parts from which they grow. The instance just mentioned of the pendulous portion of fat growing from the peritoneum will serve as an example. The vessels which had shot into it made the tumour into fat; whilst the neck was of a fibrous and vascular structure. I have seen osseous tumours, unconnected with bone or periosteum; and indeed, in general, the structure of a tumour is unlike that of the part in which it is produced. Therefore we seem warranted in concluding that, in many cases, the nature of the tumour depends on its own actions and organization, and that, like the embryo, it merely receives nourishment from the surrounding parts. If then the coagulable part of the blood be from any cause effused; if the adjacent absorbents do not remove it, and the surrounding vessels grow into it, the origin of a tumour may be thus formed. It may be right to reflect a little on the causes which may occasion a deposition and consequent organization of the coagulable part of the blood; inasmuch as such reflections throw light on the nature and growth of tumours, and lead to the establishment of principles which are applicable to tumours in general. The deposition of the coagulable part of the blood may be the effect of accident, or of a common inflammatory process; or it may be the consequence

of some diseased action of the surrounding vessels, which may influence the organization and growth of a tumour. The parts surrounding the tumour may often therefore be considered as simply the sources from which it derives its nutriment; whilst it grows apparently by its own inherent powers, and its organization depends upon actions begun and existing in itself. If such a tumour be removed, the surrounding parts, being sound, soon heal, and a complete cure ensues. But if a tumour be removed, whose existence depended on the disease of the surrounding parts, which are still left, and this disease be not altered by the stimulus of the operation, no benefit is obtained: these parts again produce a diseased substance, having generally the appearance of fungus; and in consequence of being irritated by the injury of the operation, the disease is generally increased by the means which were designed for its cure."

Dr. Hodgkin's ingenious theory of the formation and constituency of certain adventitious structures will be duly noticed during our discussion of a future subject better adapted for its introduction than the present.

OF THE DIAGNOSIS OF UTERINE AND VAGINAL POLYPI.—There are few diseased conditions of the internal genitals which CAN BE EASILY MISTAKEN for any variety of the adventitious pediculated tumours which form the subject of the present article. Nevertheless there are not wanting in the records of our profession some extraordinary examples of mistakes of this kind. Hernial protrusions into the vagina of portions of intestines, of the bladder, or part of that organ, or of the omentum; perineal hernia of the intestines; cases of prolapsion and inversion of the vagina; and all degrees of descents, as well as morbid extensions of the proper tissue of the womb itself, have accordingly furnished, not unfrequently, opportunities and subjects for the commission of such mistakes.

Hernial protrusions of intestines into the vagina are for the most part exceedingly easily distinguished from polypi of that passage, by their elastic and otherwise characteristic feel; by their perfect sensibility to the touch, and especially to puncture or incision made by a pointed or edged instrument; by their being covered by a production of the mucous membrane of the vagina itself, which generally may be easily enough identified by its characteristic rugæ; by the peculiar crepitus of hernial tumours; by their occasional reducibleness of bulk by compression; and by their almost entire non-possession of the properties which more especially distinguish polypi.

Hernial protrusion of a part of the bladder into the vagina may be distinguished from a vaginal polypus by the peculiarity of its feel, which is nearly equally soft and compressible, but not so elastic, as a tumour formed by a protrusion of intestine; by a difficulty and perhaps pain in voiding the contents of the bladder; by a tortuous direction of the urethra, ascertainable by the introduction of a flexible catheter; by different sizes of the tumour during states

of comparative fulness or vacuity of the bladder; and by its being visibly covered, as in the former case, by a production of the mucous membrane of the vagina.

A tumour formed by a hernial protrusion of intestine at the vaginal boundary of the perineum may be distinguished from a polypous excrescence of that part, by the usual feel of hernial tumours; by its being covered by a production of the proper integument of the part and its neighbourhood, from which it takes its origin; by the crepitus incident to hernial enlargements, and by the painful and characteristic symptoms of strangulation, in the event of the supervention of that result. This last distinction is of course applicable to all tumours formed by hernial protrusions of the intestines, whether formed actually within the vaginal passage or at its inferior boundary.

The most frequently occurring examples of the mistakes which are committed in respect to uterine and vaginal tumours, are those made between different degrees of descents and other malpositions of the internal genital organs themselves, and the polypous tumours which form the subject of the present inquiry. Of about twenty-six cases of adventitious pediculated uterine and vaginal tumours of which the pathological histories are recorded in *Levret's Memoirs* already alluded to, we meet with at least six which had been mistaken for prolapsions or other forms of displacement of the uterus. See also in *Levret's* original treatise on *Polypi*, p. 28, a long list of published examples of the commission of the same mistake. The diagnosis of each of these malpositions of the womb the reader will find sufficiently clearly indicated, each under its proper head, in preceding pages of the present work, viz. pp. 154, 155, 545, and 547. Amongst the diverse malpositions of the uterus, when uncomplicated with other diseases, it is only that of its inversion, as it seems to the author, that can be easily mistaken for a pediculated tumour deriving its origin from the same organ; and in one particular variety of uterine polypus, viz. one taking its origin from the labial inferior boundary of its vaginal portion, there may indeed be some difficulty in clearly making out the distinction. The following, however, are the proper elements of a correct diagnosis on the subject.

A simple inversion of the uterus presents to the taxis several circumstances which may lead a practitioner of limited experience in obstetric practice to confound it with a uterine polypus occupying the same situation within the vagina. Both are felt to be pyriform bodies. They may be of equal magnitude, and not very unlike each other as to the tangible properties of their tissues. Both are also accompanied by occasional hæmorrhages, and are almost equally causes of profuse leucorrhæal discharges, calculated to reduce the health and strength, and to involve even the life, of the patient in jeopardy. The following are the pathognomic circumstances of each. The inverted uterus forms a tumour possessed of more than ordinary sensibility. It recognises the lightest touch of a finger, and is painfully affected by the puncture of a needle, or even the pressure of the more pointed end of a probe. The attempt to examine its neck or

stem is often attended with much difficulty, by reason of the severe pain which it inflicts on the patient; and when the finger reaches high enough to effect that object, it arrives at no stem analogous in its properties, as to tissue, dimensions, relative position and connexion, to these of an ordinary stem of a polypus. The superior part of the neck of an inverted uterus might indeed be felt somewhat indistinctly bounded by a thickish ring of rather firmer tissue than itself. A skilful and experienced examiner might possibly be able to recognise the part in question as a portion of what is usually called the vaginal part of the uterus; but by no means as that part in its ordinary state, nor even in its essentially proper relationship to the stem of a polypus. Again, simple inversion of the uterus has always, as far as the author has ever known, been an early sequence of parturition, and a result of undue violence, either on the part of nature in the expulsion, or of the practitioner in the removal of the placenta. In either case so serious an accident must have been immediately followed by effects so immediate and alarming as could scarcely fail to be recollected by the patient herself, and thus become available to the object of a true diagnosis of her case. A uterine polypus, on the other hand, is for the most part a totally insensible tumour. It is pendulous from some part of the uterus into the vagina by a neck which is usually very much smaller than its body, and its stem, whether thus comparatively smaller or not, is found surrounded by the actual and easily and distinctly recognisable parietes of the neck of the womb in its natural situation relatively to its connexion with the vagina.

There however exists one variety of uterine polypus, of which the establishment of a correct diagnosis might be attended by much difficulty, even to a skilful and practised operator. It is that which takes its origin from the whole or greater part of the actual boundary of the aperture into the cervix, or rather into the passage within the cervix, of the womb. This variety of pediculated tumour of the uterus is that which Levret has made to constitute his third species of uterine polypi. Levret, *Observations sur les Polypi*, art. 1. p. 14. The implantation of a large stem of a tumour of this variety must obviously involve its diagnosis in some difficulty. A case of this sort, so absolute and complete as to amount to an effective impediment to all communication between the uterus and the vagina, could only exist in a non-menstruating subject. If therefore the catamenial function is found not suppressed, nor otherwise disturbed, it would be a matter of presumption either that the orifice of the uterus was not so perfectly obstructed as it had been previously supposed, or that the source of the discharge must be the surface of the inverted uterus, that is, the surface of the actual tumour. In this predicament, it would seem especially important, that the fact of the absoluteness of the suspected obstruction of the ordinary passage through the cervix and orifice of the uterus should be further examined into and determined, one way or the other, beyond all possibility of doubt. To accomplish that object, it might be necessary to bring the tumour, and even the supposed seat of its implantation, within the reach if possible of

an ocular examination. In the further progress of the present work the author will place before his reader several representations of perfectly safe instruments, by which he will be enabled, without any extraordinary risk or difficulty, to secure for himself the opportunity of establishing his diagnosis beyond all chance of ultimate failure or uncertainty. The remaining point of the diagnosis between an inverted uterus, uncomplicated with any other disease, and the variety of pediculated tumour pendent from the uterus under consideration, is the perfect and even painful sensibility of the former, and the total absence of all susceptibility to tangible impression in the latter.

In a case of inversion of the uterus, complicated with, and possibly produced by, a polypous excrescence from the interior of its fundus, as was the case already referred to of the poor woman who was taken in a moribund state to the Middlesex Hospital; see Plate XXI; the diagnosis must be considered as extremely difficult, and sometimes actually impossible. In the very case in question, the author believes that Dr. Merriman and his official colleagues of the Middlesex Hospital came to the only conclusion to which they could have come, and in fact that they distinctly announced their opinion, which afterwards proved well founded, of so much of the actual constituency of the tumour as it was possible for them to have attained any knowledge of. It might, perhaps, be practicable to arrive at a correct diagnosis, with respect to some forms of the complication now in question, by making proper investigations at early periods of their development, as also when the stem of the polypus might be limited to a narrow extent of implantation. In the following case, for example, it would seem very probable that the nature of the disorder might have been ascertained, by proper examination, some two or three years before the patient's death: nor can it at all appear impossible that an earlier establishment of the diagnosis might have led to the prevention of that event. "An unmarried lady, of forty-two years of age, who had for a long time been the subject of obstinate uterine hæmorrhage, carried within her vagina a tumour so large that it entirely filled it. This tumour was at length forced, by a most painful effort, out of the pelvic cavity, and was afterwards to be seen pendulous by a pedicle between, and externally to, the labia majora pudendi. The pedicle, by which it was attached to another tissue within the pelvis, was between three and four lines in length, and five or six in diameter. M. Vacoussain had recourse to the use of the ligature, and proposed afterwards to amputate the same evening; but the patient's death prevented him. On inspecting the body, that gentleman discovered that the fundus of the uterus, TO WHICH THE PEDICLE OF THE POLYPUS HAD BEEN ATTACHED, was inverted, and that it had followed the tumour into the vagina. The polypus weighed nearly four pounds. From these facts we may well infer that its existence must have been of long duration. Four years had indeed elapsed since M. Vacoussain had been acquainted with the case since on the first occasion of his seeing his patient he had been under the necessity of having recourse to the use of the catheter. Not encountering any

obstacle in the urethra to the introduction of that instrument, he passed his finger into the vagina, and he in fact found a tumour presenting at the orifice of the uterus about as large as a pullet's egg, which was smooth, quite round, and of firm texture. He doubted not that this body had been the only cause of the retention of urine; which indeed afterwards became periodical, observing the same periods with those of menstruation. From that time forward, during the remaining four years of the patient's life, he was frequently obliged to have recourse to the use of the catheter, and in fact did use it four hundred times within that period. During the same interval the tumour made so great a progress as actually, by dint of its own development, to be forced, as already stated, out of the pelvic cavity." *Mémoires de l'Académie de Chirurgie*, etc. tom. iii. p. 565. Many other cases of uterine polypi, complicated with various degrees of inversion of the uterus, might no doubt be easily referred to, where at an early period of the malady the adventitious tumour might have been without difficulty ascertained, and really before it had produced even an incipient inversion, and afterwards at subsequent stages of the complication long before the entire case could be expected to become unmanageable in its treatment, and fatal, as in the case now related in its event.

OF THE TREATMENT OF UTERINE AND VAGINAL POLYPI.—The important and indeed the only indication to be pursued in the treatment of these adventitious bodies is, by the best means and as speedily as possible, to effect their removal. For the accomplishment of that object, the several different modes of cauterization actual and potential, abscision, extirpation by ligature, ligature and abscision, and finally torsion, including forcible traction, and wrenching.

The use of caustics for the extirpation of uterine and vaginal excrescences, has been known and recommended from a very early period of the history of medicine; Celsi Oper. lib. vi. cap. 18; and there are not wanting some examples of its having been made available in the practice of comparatively modern times. Juncker. Conspect. Chirurg. tab. 101. Verduc. Pathol. Chirurg. cap. xlii. Volter. Schola Obstetricum. For the destruction of fungoid growths about the vulva and the orifice of the urethra, as also for that of small carunculous sproutings from the orifice and surfaces immediately contiguous to the orifice of the uterus itself, and in that case to be cautiously applied to the part affected by means of a suitable speculum, some varieties of caustics may be made available for purposes at least of temporary or experimental treatment; IN CASES ESPECIALLY where the more formidable operation of excision might not be easily practicable, or where the patient's fears might induce her not to admit of its being performed. Levret seems to entertain some objections to this practice, on the ground, perhaps more fanciful than well founded, of the liability of applications of this kind to generate, or to increase an already existing disposition to malignant action. "Experience has often proved," he observes, "that these excrescences, when they have already acquired a certain degree of solidity, approaching to that of

scirrhus, or if become tainted, in any, however inconsiderable a degree, by a depravation of the fluids, very easily degenerate into cancers, by the application either of the actual cautery, or by the use of the corrosive substances, usually called caustics." The author believes that these fears are in a great measure, if not totally, destitute of foundation; and he would therefore be less disposed to object to the use of the actual cautery, on account of the comparative inefficiency of many of the potential caustics, and of the uncertainty of extent, or the dangerous excess of action, of some others of them.

Of the actual cautery as a means of extirpating pediculated tumours of the uterus he does not however feel competent to offer an opinion, inasmuch as he has never seen it employed as a remedy in such cases. He can indeed easily conceive, that for the treatment of very vascular tumours of that class, with strongly pulsating stems, the actual cautery, skilfully and judiciously employed, might prove itself a very useful power, and even competent, in some cases, to rescue life, under circumstances of imminently threatened danger of its extinction. There is a fashion in surgery as well as in medicine; and under the sway of its mighty influence, the use of the actual cautery has surely been too indiscriminately proscribed by modern surgeons.

TORSION is only another word for twisting, and it may be easily understood how the action of twisting may be made available for the forcible separation of more slender and lacerable tissues from others of greater weight and substance, or of greater density and firmness of texture. The word however is here proposed to be used in a more general sense, as expressing the idea not only of simple twisting, but also those of forcibly pulling at and wrenching. This power has not unfrequently been made use of for the purpose of effecting the extirpation of polypous tumours both of the uterus and of the vagina; and it is a means which may often be made use of for that purpose, not only with great safety, but in proper cases, even preferably to any other. The case quoted in p. 609, may be submitted as an apposite example in confirmation of this statement. The author might indeed cite several other cases which, although not precisely of the same kind with that of the poor woman in Dorrington-street, would doubtless be equally pertinent to his purpose. He will however content himself with a very brief account of ONE MORE. A lady of Nottinghamshire, aged about thirty-seven years, came to London to consult the author, on account of a uterine polypus, which, although very inconsiderable as to bulk, had been a cause of no little derangement of her general health for many years. Its pedicle was as small as a slender umbilical cord. It almost emulated also its length; but not by any means its lacerableness of texture; for in the progress of its management, it was found very nearly as tough as a piece of catgut. To this rather remarkable pedicle was appended a membrano-cellulous tumour, of about the size and shape of a smallish pear, which dangled between the patient's thighs, within the distance of about two inches from her knees. The body of this tumour was well supplied with nourishment, for it was always more or less humid on its

surface, although the patient, with a view to her own comfort, took great care to keep it covered, and indeed, in some sort, suspended by a napkin, which she always wore for those purposes. After ascertaining the above fact, the author proposed amputation, as upon the whole the best mode of treating the case. But the patient had great objections to any mode of management which might require the use of a cutting instrument. The ligature appeared to be the next best alternative, and one was accordingly forthwith applied. The noose was drawn tightly, and subsequently tightened many times for at least a fortnight, but without making its way through the apparently inconsiderable amount of tissue which it had to divide. The distance of the patient's temporary residence at Dulwich-hill, being too great for daily or even frequent visits, the author at this period determined to make use of more traction than he had used before, and indeed quite as much as he considered compatible with the integrity of the tissue of the uterus itself, but still without effecting his object. To traction he then added torsion of the pedicle; which he contrived to effect pretty safely and gradually, by obtaining a purchase of a portion of it near its origin with a pair of light toothed forceps, made on the principle of Dr. Haigh-ton's, with its purchase surfaces carefully guarded, to prevent the accident of snapping the stem off, if that might be possible, at a part deemed too distant from the source of its origin. Thus was the case at length brought to a satisfactory conclusion. To the uterine end of the pedicle, after its removal, there appeared attached a very small tuft of tissue, not unlike that of the parenchyma of the uterus itself. The operation was followed by no hæmorrhage worth consideration; and the patient recovered without accident, and returned to her own residence in Nottingham, in the course of about eight or nine days afterwards.

The treatment of polypous tumours by torsion of their stems has at different periods been much practised and recommended by writers of no doubtful reputation for skill and practical experience. *Dionis Operat. de Chirurg. Demonstrat. iii.* *Juncker. Conspect. Chirurg. tab. 101.* *Heister. Institut. Chirurg. cap. cli.* *Peyronie, Obs. xxi. et Boudou, Obs. xxii. cités par M. Levret. Mémoires de l'Acad. Roy. de Chirurgie.* The mode of procedure by torsion should not however be considered as one generally to be preferred to every other, and especially to that of tying, followed by section of the stem below the ligature. M. Boudou's case, just referred to in illustration of this practice, may be advantageously perused by the inexperienced reader on account of two or three critical remarks made upon it by Levret. "On the 6th of July 1743, the late M. Boudou's professional attendance was requested on an unmarried lady of thirty-eight years of age, for a uterine discharge, sometimes of a serous and at other times of a sanguineous character, accompanied by acute pains in the region of the uterus, of which she had been the subject for five years. He met on the occasion MM. Herment and Peyrat, the former one of the physicians and the latter obstetric surgeon to the queen, who already had been in professional

attendance on the patient for a long time. They all recognised the presence, within the vagina, of a hard carcinomatous tumour, which took its origin from the uterus, of which the fundus was brought down towards its orifice by the weight of the tumour. That body pretty well filled the vaginal passage, and even to a degree to have made it difficult to carry the hand up sufficiently high to reach the part to which its stem was attached. The operation of extirpation by ligature was proposed and concluded upon. It was a part of the history of the case, that the catamenial, function had not been deranged during any period of the disease. M. Boudou undertook the duty of applying the ligature, and after placing the patient in a convenient position, made the attempt to effect that object. He however totally failed in it. But availing himself of the opportunity, and feeling very anxious to secure his patient against the recurrence of future hæmorrhages, he determined to extirpate the tumour by torsion. That was done with as much caution and mechanical adroitness as he was master of. The stem of the tumour was rather slender, and its extirpation was effected without producing any hæmorrhage. M. Boudou, nevertheless, took the precaution of having the patient bled twice. The operation was followed by no vaginal discharge of any kind. The tumour was about the size of a hand-ball, and nearly as hard, but of a livid hue. On one part of its circumference was observed a sort of a broken eminence, where it was supposed to have been connected to its parent tissue within the uterus. From observing the dimensions of this part, it was concluded that the pedicle had been about an inch long, and five or six lines in diameter." On the result of the above case, and that of another which he had antecedently quoted, M. Levret made the following perhaps too harsh remarks. "The two histories just cited would appear calculated to incline the mind to an approbation of the method of extirpating uterine polypi by torsion of their pedicles. But it is not to be dissembled that in the latter case the operation in question, although performed by a practitioner of reputation, was an example of a rash tentative practice, of which one finds it impossible to disapprove on account of the obvious risk which it incurred of tearing off a portion of the uterus at the same time that it effected the removal of the polypus. But the circumstance on which M. Levret has founded his leading objection to the treatment of polypi by torsion of their stems, is not the only nor even the principal one which he adduced in objection to the indiscriminate adoption of that practice. In the German Ephemerides we meet with a case of the same practice by which was produced a total inversion of the uterus, speedily followed by a fatal result. It was reported at the period of its date by Zwinger. Ephemerid. Germ. decad. i. an. 2. obs. 176. p. 413. Its subject, a woman of inferior condition, who had been afflicted for two years with frequent and profuse discharges of blood, accompanied by pains of the loins and groins, together with difficulty in voiding her urine, and a distressing feel of a tumour bearing upon the perineum and fundament, which had the effect of disabling her from sitting. She sought the assistance of two midwives, who were not accustomed to the management of

cases like hers, and who, mistaking the adventitious tumour which they felt in the vagina for a mass of coagulated blood, proceeded forthwith to effect its removal. Accordingly one of them seized it with her hand, and endeavoured to wrench it away. But instead of a clot of blood, she discovered that she was pulling at a mass of fleshy tissue, of the length nearly of two palms, which was prolapsing from the interior of the uterus. The cries of the patient, occasioned by the frightful pains which she experienced from the daring manœuvres of the midwife, compelled the latter to renounce her project; but not before it was too late. The most alarming symptoms soon supervened. Another midwife, who was afterwards sent for to the patient's assistance, discovered that the uterus, which had been made to follow the polypus, was turned inside out. She therefore separated and removed the polypus, and reduced the natural viscus. But gangrene soon made its appearance, and death took possession of its victim in the course of a few days." *Mém. de l'Acad. etc.*, vol. iii. p. 560. After having deliberated on all the facts of the above case, the author must acknowledge that it has totally failed to produce the impression on his mind, as to the abstract ineligibility of the operation of torsion, which it seems to have made on that of M. Levret. For what in reality does it prove? Why, surely nothing beyond the simple fact, that the operation of which it treats, is, like many other very estimable operations of surgery, liable to be abused. Whilst thus therefore it would seem just to accord some amount of merit, and credit for utility, to the now nearly obsolete procedure by torsion, it is not to be supposed that the author entertains any wish to exaggerate its importance, or even to represent it as possessing equal value with the mode of treatment next to be noticed, viz. that of extirpation of polypi by *EXCISION* of their stems.

Excision has been practised in two ways, viz. first as a single measure not to be preceded by any other; and secondly, as an auxiliary to the ligature. Anteriorly to the eighteenth century it was probably exclusively employed as a single measure. Since the introduction of the more methodical use of the ligature by Levret, it has on the contrary been almost exclusively employed as *AN AUXILIARY TO THAT INSTRUMENT*. As a single measure, however doubtful its claim to the merit of being absolutely and under all circumstances a safe practice, it has been strongly recommended by writers of no little estimation for skill and experience in operative surgery; *Ætii*, lib. iv. serm. 4. cap. 104. *Fabric. ab Aquapendente Chirurg.* cap. 85. *Dionis, Operat. de Chirurg. Demonstrat.* 3. *Platner. Institut. Chirurg.* parag. 1447. *Tulp. Obs. Medic.* lib. iii. cap. 33. p. 247. *Water, Dissert. de Sarcom. ex pudend. sect.*; whilst its employment as an auxiliary to the ligature has been still more strongly recommended as well as almost universally adopted by the continental writers and practitioners of the present and greater part of the last century.

The practice of excision, as an auxiliary to the ligature, has of course been chiefly adopted since the introduction of Levret's method of applying that power. Before that period excision was necessarily employed as a single mea-

sure, and therefore probably not very often, until the stem of the tumour came within the practitioner's view, in consequence of the previous extrusion of its body out of the cavity of the pelvis. The fatal result of an apparently simple case treated by this method, a case in which the excrescent body was not larger than an almond, had the effect of exciting great alarm in the minds of the practitioners of the period in which it occurred. Its facts were published by Zacutus Lusitanus in the early part of the sixteenth century. *Prax. Medic. lib. ii. obs. 16. Amstelodam. 1634.*

When we consider the circumstances in which the above operation was performed; that it was performed by an empiric who could have known nothing of the means usually found efficient for arresting hæmorrhages when applied by regularly educated surgeons; that it does not appear from the history of the case that the proper means were really employed to attain that object; it being probable that if a proper plug had been introduced into the vagina, and there so impacted as have ensured the application of sufficient pressure even for an hour or two, after the operation, against the wounded and bleeding surfaces, which if it had been done, it is more than morally certain that the hæmorrhage, which eventually proved fatal, must have been arrested long before it had implicated the patient's life in any danger: when we take these several circumstances into our deliberate consideration, it really seems most surprising that Zacutus's narrative should have excited so universal a prejudice, which it must be confessed it did produce, against an operation which he only proved to have ONCE terminated fatally. Levret, who lived many years after the time of Lord Bacon, found in the result of this SIMPLE OPERATION, being the consequence of one case only, a most illigitimate opportunity to pass a sentence of condemnation against all cases whatever of extirpation of polypi by section of their stems.

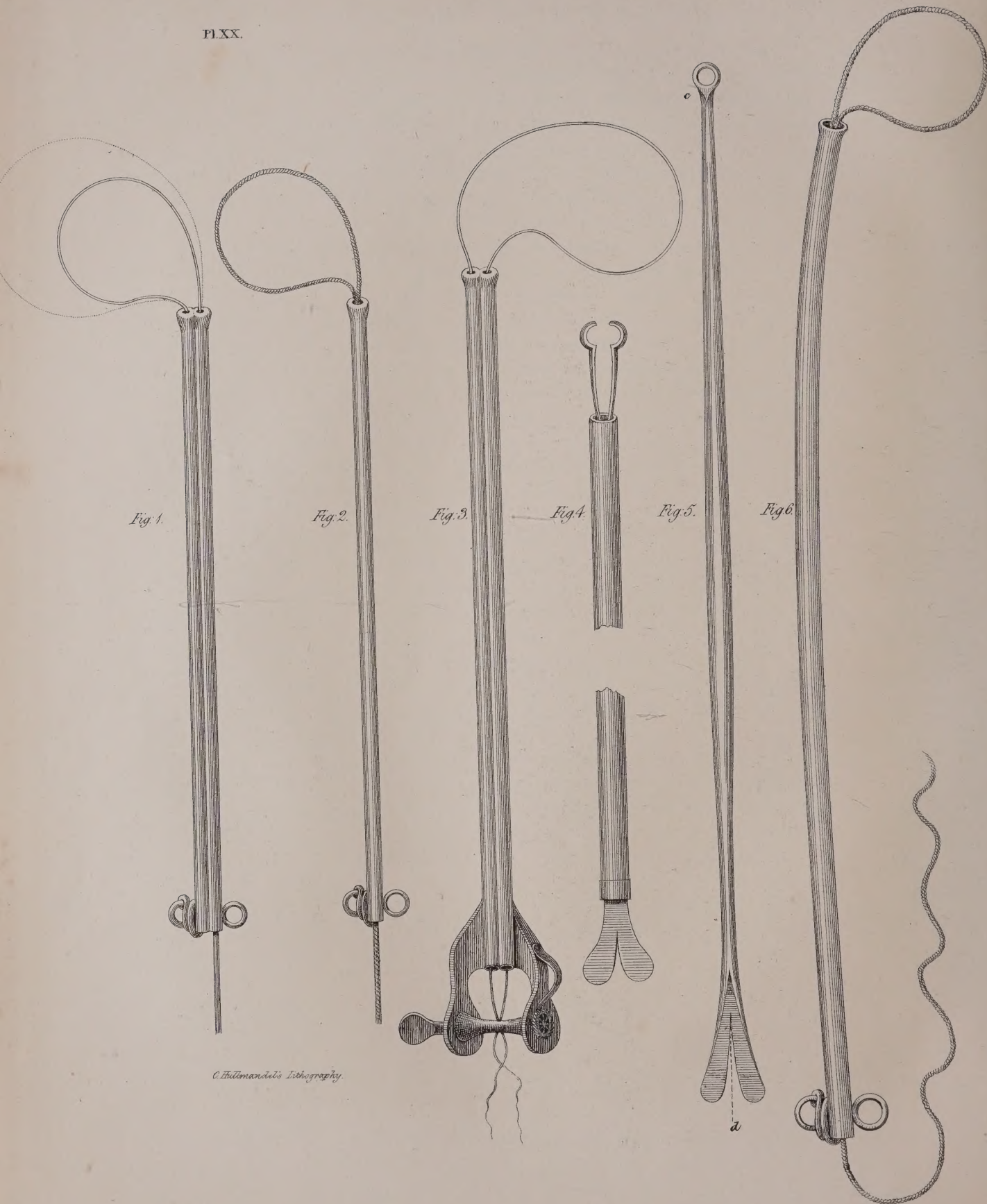
"This section," he observes, "was followed by a hæmorrhage so considerable that the patient perished from loss of blood. An example of this kind is sufficient to induce us to conclude, that to excise these sorts of uterine tumours without having previously tied their stems must be rash procedure." A logical, induction, forsooth, from the result of a single case! But one case is surely as good as another. It happened to the author, about a year and a half ago, to have been professionally consulted in a case of an excrescent tumour from the vaginal part of the uterus, exceedingly similar in its description to that related by Zacutus. A young lady, of about five or six and twenty, had been the subject, for some two or three years, of profuse discharges of blood from the uterus at uncertain times, but especially at the ordinary periods of her catamania, which had had the effect of considerably blanching her complexion. Examination per vaginam was instituted to ascertain the cause; and there was found sprouting from the left commissure of the orifice of the uterus an adventitious growth of about the size of an almond. A gentleman, much experienced in the practice of midwifery, and much engaged in that department of the profession, was requested to give his opinion and

advice on the case ; and he pronounced it a polypus, which should be removed by a ligature. The ligature was ATTEMPTED to be applied, and its stem, or some part of it, was represented to have been included within its noose, but the polypus was not removed ; nor was the patient's situation in any degree ameliorated by the operation. After the lapse of several months, it was proposed that the present reporter of her case should be requested to pay her a visit. The tumour really was an excrescence from the part already named, but it was perhaps scarcely so distinctly pediculated as to have entitled it to the denomination of a polypus. As soon as the author ascertained its nature, he immediately felt that it would be impossible for HIM to effect its removal by a ligature. But it was become very important to remove it at all events ; and accordingly, in a short time, it was removed by excision. The instrument employed in the operation was a pair of scissors with curved blades blunted at their ends, and shanks as long as those of a common obstetric perforator. The principal excrescence was thus at once pretty easily removed ; but there were left several other bodies of similar character, although of considerably inferior size. These were subsequently removed in the same way, and also without much difficulty. There was not half an ounce of blood lost during any of the operations. The patient ceased from that period to be the subject of her former sanguineous discharges. After the lapse of about three months subsequently to her return to the country, for she usually resided in Hertfordshire, she came to town again, in order to have the then state of the parts whence the fungoid growths just described had been removed, properly ascertained. They were found precisely in the state in which they were left after the operation, excepting that they were quite free from unevenness. The examination was borne without inconvenience, as the os uteri was perfectly sound and healthy.

The above case is so complete a contrast to that of Zacutus, while at the same time it leads to a conclusion so opposite to that of Levret from the event of that unfortunate case, that it should be duly authenticated. Be it then observed, that Mr. Jones, an intelligent practitioner in the establishment of Mr. Griffith, of Tottenham-court-road, was privy to the whole treatment of it.

The tumours best adapted for the treatment by excision as a single measure are those with narrow stems, consisting of firm fibrous or ligamentous tissue ; together with small excrescences not easily removed by torsion, nor sufficiently distinctly pediculated. Uterine and vaginal polypi of larger volume, and especially if their stems be also large, and doubtful as to their degree of vascularity, require as a measure of precaution that the pedicles should be tied previous to their excision.

OF THE TREATMENT OF POLYPI BY THE APPLICATION OF LIGATURES TO THEIR STEMS AFTER THE MANNER OF LEVRET.—It is not known at what period ligatures were first used for the removal of pediculated tumours. But it is well known that it is to Levret that the profession is indebted for the



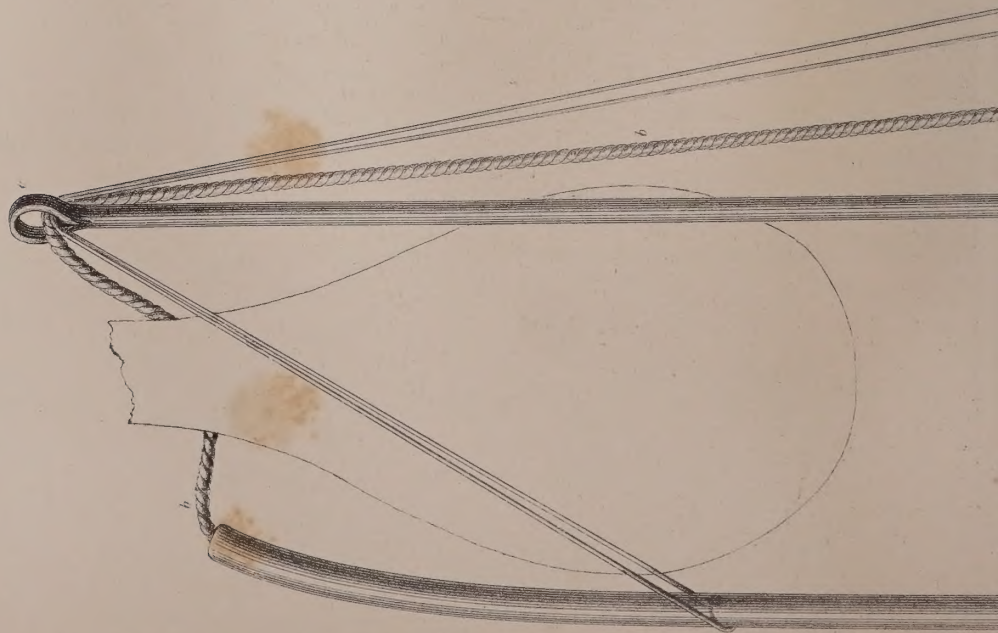
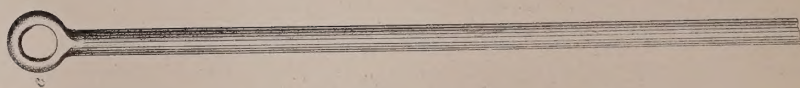
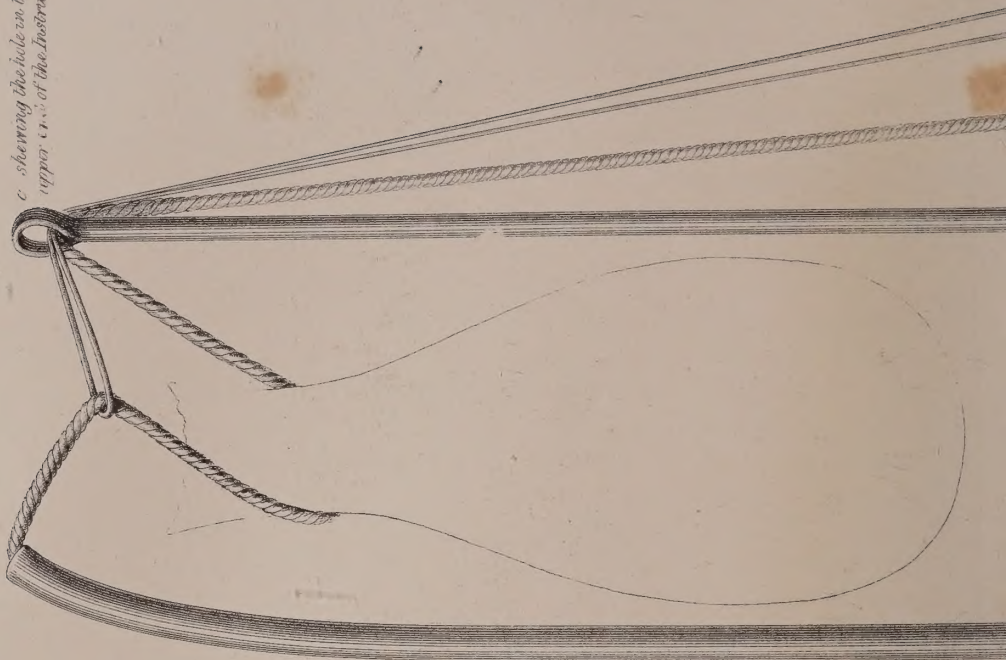
introduction of the practice of applying ligatures to the stems of polypi, when originating from deep-seated cavities and passages. Levret. *Observ. sur la Cure radicale de plusieurs Polypes, etc.*, p. 228. M. Levret devised several varieties of instruments to accomplish that object, which the reader may see very accurately and intelligibly represented in the several plates which accompanied his first work, published in 1749, on the application of the ligature to the stems of deeply-seated pediculated tumours. But all his early instruments, in common with certain modifications of them proposed by M. Le Cat and others, were eventually superseded by his celebrated double canula, which, as far as the author knows, he first made public in 1757, in his admirable essay, already quoted, on uterine and vaginal polypi, in the *Memoirs of the Royal Academy of Surgery*, edit. i. tom. ix. p. 188. See pl. xx. fig. 1 of this work.

In 1768, an inconsiderable addition, scarcely an improvement, was made upon Levret's double canula, by M. Keck, being an appendage to its inferior extremity of a windlass for gradually tightening the noose of the ligature. See fig. 2. pl. xx. This device was published in the *old French Journal*, for December 1768, vol. xxx. ; and subsequently more particularly described and illustrated by an engraving in vol. xxxi. p. 440. See also our pl. xx. fig. 3.

M. Herbiniaux brought forward his instrument, consisting of two distinct canulæ, in 1770 ; the one to be used as a principal, for carrying the loop of the ligature to the stem of the tumour, and the other as an auxiliary, for conveying it round its pedicle, and completing the noose within which it is to be included. In its principle this instrument is, in some respects, simpler than the double canula of Levret ; but in its actual mechanism and management it would scarcely seem to deserve that credit. *Traité sur les Polypes de la Matrice*, par Herbiniaux, etc. p. 136, et pl. iv. figs. 1 and 2. *Bibliothèque Chirurgicale*, tom. ii. p. 72. Götting. 1772. The precise amount of its superiority over Levret's is now become a matter of no important consequence ; inasmuch as it has long been superseded by the simpler contrivance of Desault. Like Herbiniaux's, Desault's instrument consists of two principal parts, viz., one to carry up the ligature to the stem of the tumour, and another to convey it round it, so as eventually to leave the pedicle included within a running noose of the cord, capable of being drawn tighter and tighter, until all circulation in the tumour shall have ceased. But this contrivance can scarcely be understood without the assistance of a diagram. Let then fig. 1, pl. xx. B, be a canula of about nine or ten inches in length, and more or less curved, according to the convexity and solidity of the tumour to be removed. The small letters a a, are each of them a small ring, soldered to either side of its extremity, in order, when necessary, to furnish to the practitioner a fixed point for fastening the canula extremity of his ligature, and also a firm purchase of his instrument when he has to use it. The cord marked b, is the ligature with which the stem of the tumour is to be tied, being a strong silk cord, of about the diameter of whipcord. Whipcord itself has been suggested as a proper material for a polypus ligature ; but it is not sufficiently flexible for the purposes of Desault's con-

trivance. Fig. 2 is a solid staff of steel or silver, of the same length with the canula, perforated at its extremity by a round or oval hole, c, one of sufficient size to carry at once three thicknesses of the cord and two thicknesses of strong silk thread. The inferior extremity of this instrument is seen notched at d, or otherwise provided with the means of attaching to it both the extremities of the ligature, after the noose shall have been made and duly applied to the stem of the polypus. See also pl. xx. figs. 4 and 5, at d. The ligature is to be passed singly through the canula, and also through the hole just described in the other instrument, and together with it through the latter a portion of strong silk thread doubled; the duplicature being to be so managed as to form the loop, seen riding over the canula, pl. xx. fig. 1, and having for its object the conveyance of a second portion of the ligature through the aperture in the auxiliary instrument, so as to form the noose which is ultimately to effect the strangulation of the stem of the polypus. The ligature is to pass continuously from the tube of one instrument through the aperture in the other, the looped silk thread having also to be drawn along from the one to the other in the manner already described. The practitioner has them to pass the looping extremities of both instruments together to the root of the pedicle in the best way he can, either on one side of it, or along any other part of its surface. He will then pass over his canula to an assistant, to be held steadily in its position, whilst he himself carries a portion of the ligature, by means of the other instrument half way round the neck of the tumour: then taking back the canula into his own hand, he carries, by means of it, an equal length of ligature round the remaining half of the stem. The looping extremities of the instruments being now nearly or actually in contact, his next object will be to convey a second portion of the ligature, as well represented in plate xx. B, figs. 3 and 4, from the canula through the aperture in the other instrument; the first portion being supposed to have been already passed from and through the aperture in the right-hand instrument into and through the tube of the canula. The apparatus thus adjusted, the operator will have to take up his canula, to pass its external extremity, together with its portion of ligature, through the loop of silk thread. By drawing down firmly the loose extremities of the same thread as seen affected by the practitioner's right hand, see pl. xx. B, fig. 2, the loop will be carried up over the canula, so as ultimately to fall upon the portion of ligature intermediate between its aperture at its upper extremity, and the hole through the right-hand instrument. The loop will therefore thus be made to include within its duplicature the transit part of the ligature, and consequently become an available instrument for doubling that portion of it and conveying it so doubled, the neck of the tumour having now been enclosed within the duplicature, from the canula or left-hand instrument, fig. 3, to the right-hand instrument, fig. 4, plate xx. B. The traction of the ends of the silk thread by the fingers and thumb of right-hand, as well shown in plate xx. B, figs. 2 and 4, is to be continued until the portion of the ligature in purchase by the loop of the thread shall come into view. This part of the ligature will of course present itself in the form of a loop or

c showing the hole in the
upper end of the instrument



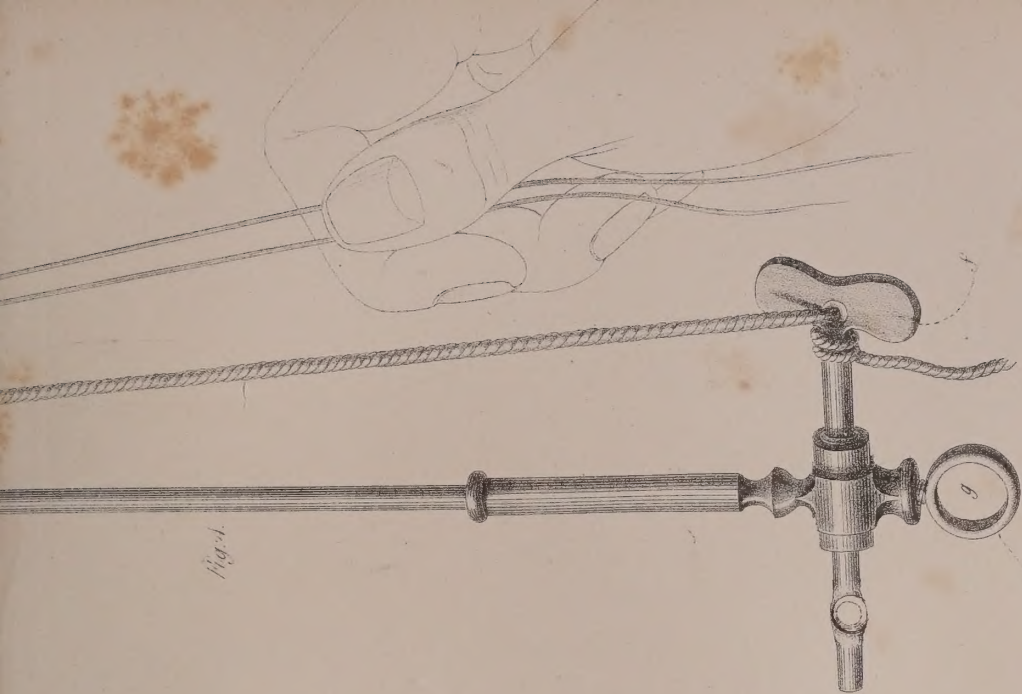


Fig. 4.

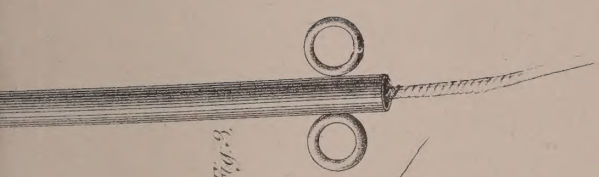


Fig. 3.

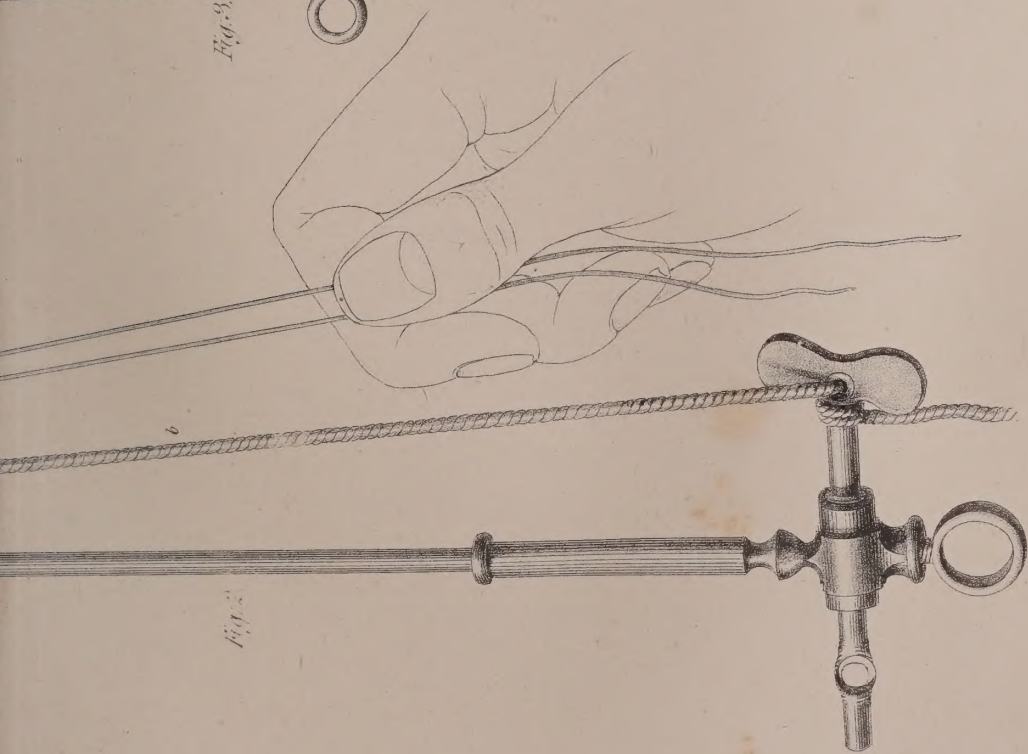


Fig. 2.

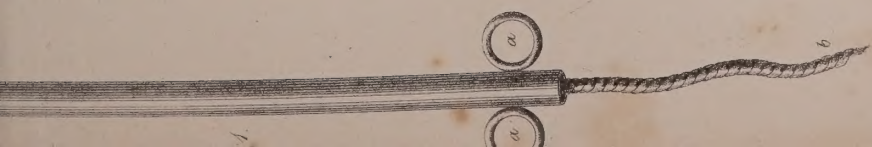
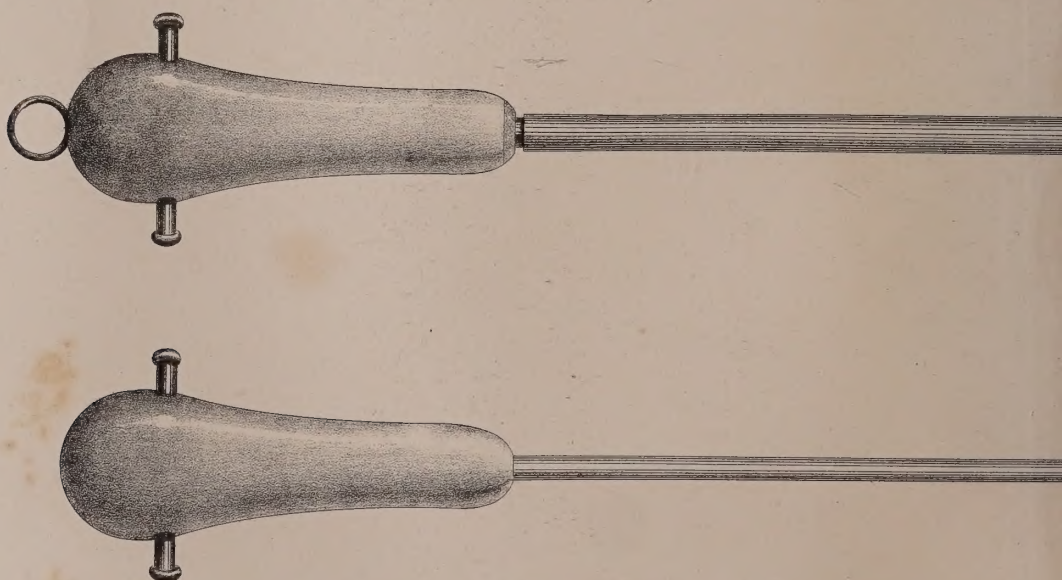
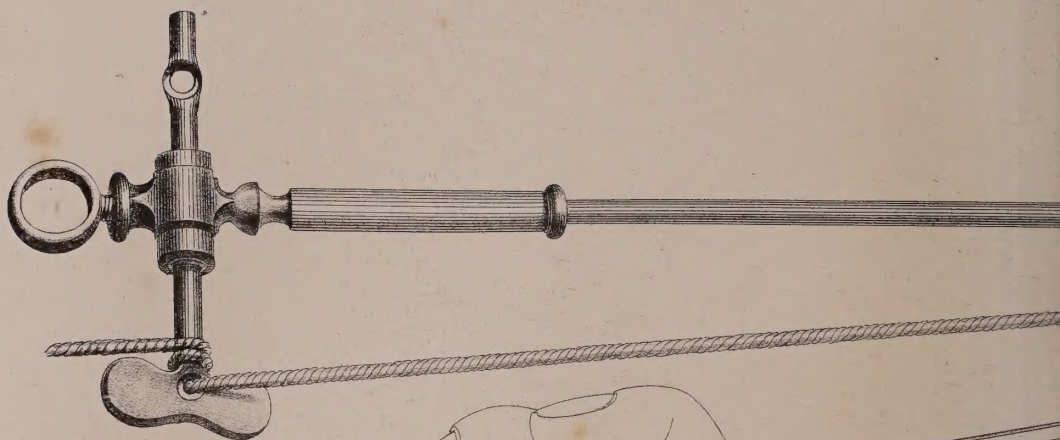


Fig. 1.

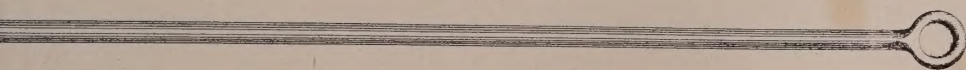
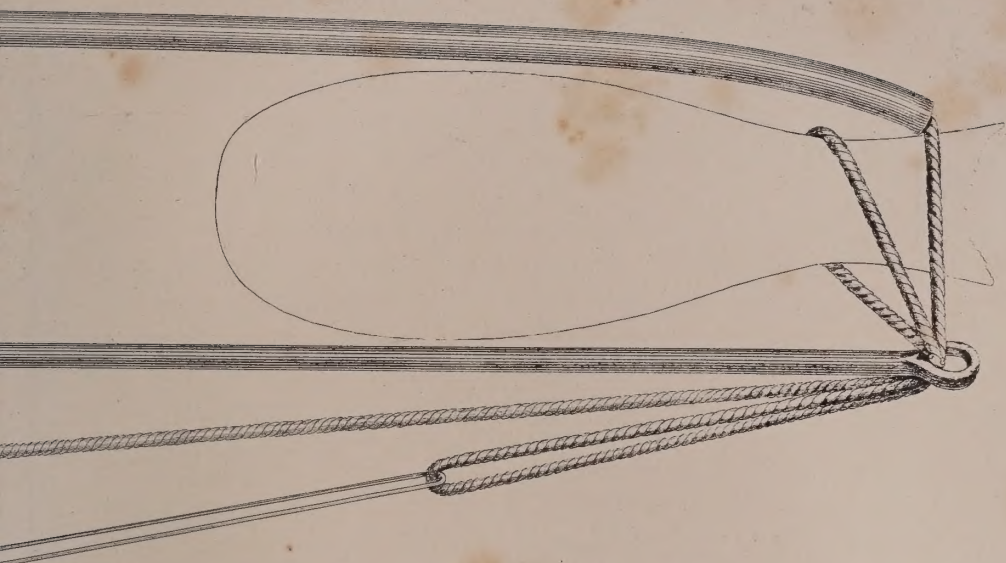
C. Hallman's Lithography.

See Cord b. b. b. Fig. 1.





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PL. XX. C.



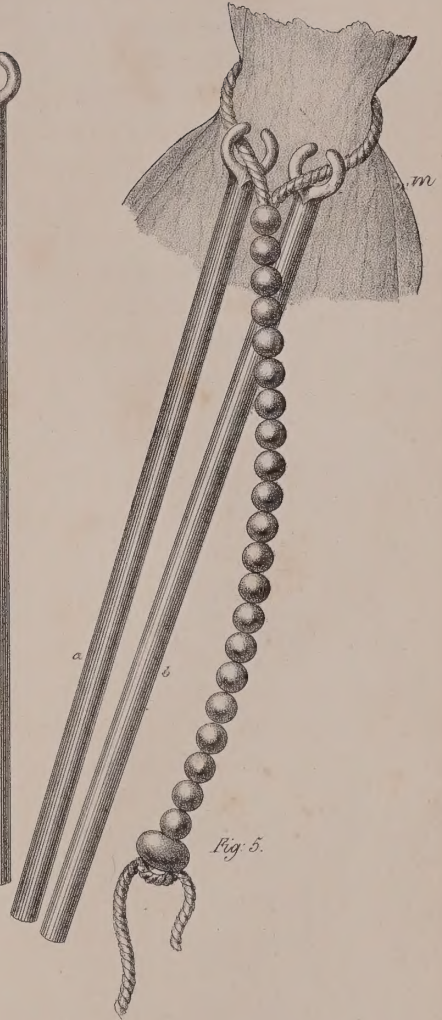
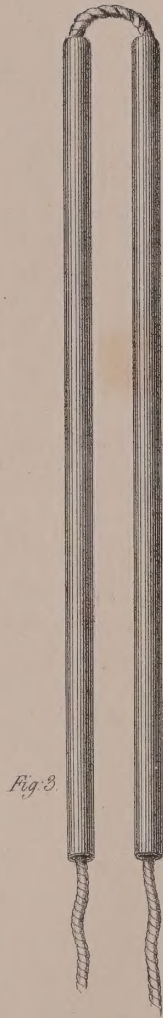
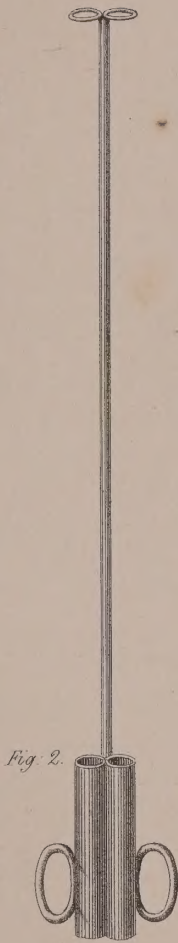
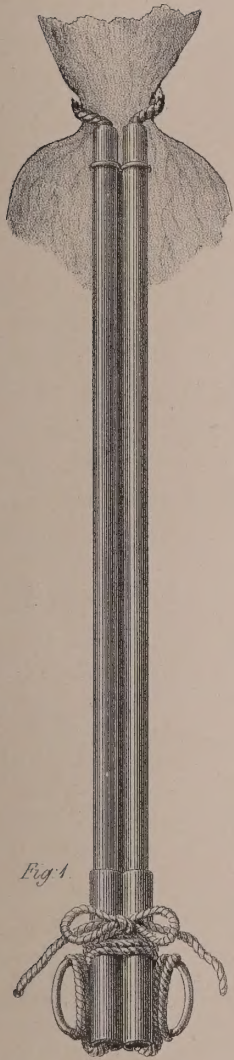
duplicature, from which its conductor, the loop of silk thread, should now be removed. On drawing down cautiously, first at one and then at the other side of the loop of the ligature, one of them will be felt to follow readily the force so applied to it, whilst the other will be found almost altogether immoveable in any direction. The moveable one will be found identified by its continuousness with the extremity of the canula or left-hand portion of the ligature; for when the moveable portion of the loop is being withdrawn on one side of the tumour, its other extremity is seen to disappear correspondingly on the other, so as to leave the canula or left-hand instrument entirely unoccupied. The notch, *c*, at the inferior extremity of Desault's auxiliary instrument, Pl. xx., figs. 4 and 5, which is intended to furnish a fastening place for the ends of the ligature, is liable to one considerable practical objection, viz., that of its being apt to cut the cord. To avoid that inconvenience, the author has affixed to this part of the instrument a somewhat similar contrivance to that of M. Keck's windlass, as appended to his modification of Levret's double canula. See Pl. xx., fig. 3. Through the substance of the cross-tap, *f*, of figs. 2 and 4, Pl. xx. B, there are two holes, through which it is proposed to pass the two ends of the ligature, each to be knotted after having been transmitted through its proper aperture, after which the tap is to be turned, so as to effect the tightening of both portions of the ligature, and then to be fastened steadily to its position by the screw, *g*. To accomplish the noosing of the ligature by Desault's contrivance is not easy under any circumstances; nor scarcely practicable, unless the canula part of the apparatus be made to taper considerably, as it approaches towards its looping extremity. When the author first saw a specimen of Desault's auxiliary canula, he considered that its intention must have been to widen the noose of the ligature for the purpose of facilitating the process of passing it up to the stem of the tumour, by enabling the operator to conduct it thither by a propellent bearing made upon it at several distinct points at the same time. When intended to be used in this manner it is pretty successfully represented in Pls. xx. fig. 4, and xx. c, fig. 3; and the author has found it an excellent auxiliary to the single canula, when employed as a principal to conduct the noose of the ligature over the body of the tumour. He is, indeed, doubtful of the superiority of Desault's more operose contrivance, for surrounding the stem of a polypus with an efficient noose without previously passing over the surface of the entire body of the tumour, over the less complicated and less efficient method just alluded to and represented in Pl. xx. c, fig. 1.

Before we dismiss the subject of Desault's instruments for strangulating the stems of polypi, it seems right to notice at least one of the principal improvements which are professed to have been made upon them. Bouchet's implement for this purpose, improved by Sauter, without the imposing and expensive box windlass sometimes most unnecessarily appended to it, for a representation of which the reader may consult an engraving of it at the conclusion of an article on uterine polypi in vol. xlv. of the *Dict. des Sciences Médicales*, is

perhaps one of the most simple and practicable. The drawing of it is given in our plate xx. D, figs. 4 and 5. The conductors a and b are two staffs, made of whalebone, of about the thickness of a goose-quill, and eight or nine inches in length. Their superior extremities are finished off into something more than half apertures, as represented at m of fig. 4; into each of which is passed a portion of the noose of the ligature which is intended to include the pedicle of the tumour. The superior extremities of the conductors, thus armed, are to be passed up together to the stem of the tumour: one of them is to be given to an assistant, to be held steadily to a fixed point; whilst the other is to be carried half round the pedicle by the operator, to an opposite fixed point, and given to the assistant to hold: after which the operator carries in the opposite direction, and halfway round the stem of the pedicle, the extremity of the other whalebone conductor, so as entirely to encircle the pedicle by a loop of the cord. Both staffs are then to be kept in strict parallel by the assistant, until the operator shall have carried both ends of the cord TOGETHER through a chain of beads, and finally secured them by a surgeon's knot, as marked at the extremity of the chain. The stem of the tumour being thus included, and strongly constricted, the conductors are to be removed.

The most recently invented, or rather greatly improved, instrument for applying a ligature to the stem of a polypus, is that of Dr. Gooch. For the removal of a great majority of polypi requiring to be treated by ligature, Richter's instrument by Gooch, see pl. xx. D, figs. 1, 2, 3, must seem well calculated to answer its intended purpose. For others, and especially for tumours of this class, of GREAT VOLUME, and of much firmness and closeness of texture, it appears to the author quite certain that so bulky an instrument, and one in its principle essentially STRAIGHT, could not in fact be easily introduced by the operator, nor subsequently tolerated by the patient. As far, however, as it seems efficiently applicable to its purpose, it has the merit of being a simple and beautiful piece of mechanism. See S. Cooper's *First Lines*, ad locum. For the removal of very large polypi, such as might be found to occupy more or less impactedly the greater part of the pelvic cavity, the instruments to be preferred should obviously be curved correspondingly to the convexity of the tumours to be removed. Desault's contrivances modified agreeably to the representations of them given in pl. xx. B and C, would then be found infinitely preferable to any other method or implement whatever that the author has yet seen proposed.

The practice of extirpating polypi by tying their stems, has prevailed almost universally in Europe since the period of Levret's great improvement in the mode of effecting it. Some diversity of opinion, however, as to the legitimate objects of the treatment by ligature, and also as to the circumstances in which it should be made available, has existed in different countries, and among different practitioners in the same country. In this country it is generally had recourse to as a sole and final measure; whereas in France it has been more frequently employed as a primary and partial measure, and as one of precaution



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London, John Taylor, Upper Cover Street.



against the loss of blood, when it has been the object of the practitioner to remove the body of the tumour subsequently by excision. The removal of tumours of this kind by excision, without the previous adoption of the precaution here referred to, can scarcely be considered a safe procedure in many cases; although it cannot be denied that, of late years, it has been frequently successful in the practice of Dupuytren and other French surgeons; and we are willing, moreover, to acknowledge, that when the neck of the tumour is small, and its body is found to consist of a hard non-vascular tissue, the method by excision could scarcely be expected to involve the patient's fate in any jeopardy. On the other hand, the employment of the ligature has not always been an absolutely safe measure. Dr. Denman's second case, Francis' Denman, p. 164, is a remarkable example of the intense anxiety and occasional danger of the treatment of polypi exclusively by ligature. "Another young lady had long suffered from frequent uterine hæmorrhages, together with violent pains, recurring in the manner of labour pains. High up in the vagina, just cleared through the os uteri, I discovered a small polypus, round which a ligature was with difficulty passed. The late Mr. Hunter was with me at the time. When I began to tighten the ligature she complained of very severe pain, and presently vomited. The ligature was immediately slackened; but on every future attempt to draw it tighter, the same symptoms were immediately produced. After many trials, I was obliged to desist altogether; leaving the ligature loose round the polypus, merely to keep up in the mind of the patient some faint hope of benefit. The health of this patient was very bad when I first saw her; and in about six weeks from the time of the operation she died. Leave being given to open the body, THE UTERUS WAS FOUND INVERTED, and the ligature to have passed over the inverted part; which had occasioned all the symptoms before mentioned. This polypus could not have weighed more than an ounce, and had a very short, if it could be said to have had any, stem; so that the uterus could not in this case have been inverted mechanically, but by its own vehement action excited to expel the polypus; which, like any extraneous and offending body, was a perpetual cause of irritation." The above case, as far as the author knows, is the only published example of an unimpregnated uterus being inverted WITHOUT A MECHANICAL CAUSE; so that it really leaves some room to suspect that the inversion must have existed some time before Dr. Denman had an opportunity of ascertaining its cause. There are on record many cases of inversion of the uterus, reputed to have been produced by the action of suspension of large polypi from its fundus; but probably no absolute parallel to the case just related, of its having been the mere result of vehement action of the organ itself. Among the cases of the former class to which the ligature has been applied, BOTH WITH AND WITHOUT subsequent excision, there are, unfortunately, not wanting many examples of fatal results. This accident happened, observes Dr. Gooch, to Dr. William Hunter; and he used to mention it in his lectures as a warning to others. "A young woman

came to me from a man-midwife in the city, desiring that I would examine her. I found a monstrously large tumour filling up the vagina. I wrote word, that I thought she must die if the tumour was not removed. She was a poor servant-girl. With a long instrument, I tied it in the best manner I could. She complained of vast pain. I had before asked her, whether she ever had a child, and she assured me not. I thought the womb could not be inverted, as she had not been with child; I therefore begged her to bear the pain, made the ligature tight, gave her an opiate, and left her, desiring my friend to visit her. From him I learnt that the pain had been violent, but had ceased; and that her pulse was low and quick. She died. I examined the body, and found the uterus inverted, although she had never had a child. I also found that I had included a part of the inverted uterus within my ligature. In this case my mind is easy, for my intentions were upright. For the future, however, I have made it a rule never to make a ligature until I am quite clear that there are no parts of the tumour but what may be included." Dr. William Hunter's MS. Lectures. Dr. Gooch in his "Account of some of the most important Diseases, etc.," p. 274, reports that Mr. Abernethy used to state in his lectures, that he had opened the bodies of several women who had been the subjects of treatment of uterine polypi by ligature; but without adding that he had found, in any of those cases, the noose of the ligature strangulating uterine tissue instead of the stem of the tumour. The following case, however, furnishes a pretty good parallel to that of Dr. Hunter. It occurred at St. Bartholomew's Hospital in 1828. "The patient was a poor woman, about forty years of age, who had been delivered by the forceps about six months before, on which occasion a tumour was found within the vagina. When I first saw her, she was in the following state. She had a large tumour, which, when she was in the upright posture, protruded externally, but could easily be returned. It was as large as the head of a new-born infant, and was attached, by a stalk nearly as thick as the wrist, to the usual seat of the cervix uteri; but I could not feel the orifice of the uterus. The tumour was of a pale flesh-colour, had a knotty surface, and felt firm. The patient had a profuse colourless discharge; but she had no hæmorrhage, and had for some time ceased to menstruate. The ligature was applied round what was supposed to be the stalk of the tumour; BUT IT OCCASIONED LITTLE PAIN WHEN IT WAS FIRST APPLIED; but towards evening it became so severe as to resemble labour. It was relieved by an opiate, so that she passed a comfortable night. The next day, however, the pain increased, extending up the loins and down the limbs. The ligature was tightened every day, with a recurrence of pain, which required an opiate: the tumour became livid, and the discharge fœtid. On the 7th day a violent hæmorrhage came on, which occasioned deathlike faintings and cold sweats. The hæmorrhage was arrested by a local astringent, and the fainting relieved by brandy and ammonia; but she continued to have much pain, with vomiting; and at length died, on the fifteenth day after the operation. On opening the body, the uterus was found of its

natural size and structure. The tumour grew from the orifice of the womb all round, so as to be continuous with the cervix, and so as to cover the aperture of the uterus, and to make it impossible to say where the neck of the uterus ended and the stalk of the tumour began. The ligature had been applied so high as to include the projecting neck of the uterus. The posterior part of it had occasioned ulceration into the cavity of the peritoneum, in which there was an aperture of about an inch in extent. The inner structure of the tumour was similar to that of the fleshy tubercle: there was no inflammation of the peritoneum." A fatal case of uterine polypus, consequent upon the application of a ligature to its stem, but very doubtfully attributable to the action of that instrument, is recorded by Smellie, coll. ix. No. 1, case 2. "In the year 1742, a midwife having been called to a woman in labour, about the age of twenty-six, felt not only the child's head pushing down through the os internum into the vagina; but, at the same time, another large, firm, round substance, at the side of the head, protruding in the same manner. A general practitioner being consulted, could not discover the nature of this tumour; and left the patient, observing that "it was a surgeon's work." Nevertheless the head was, with great difficulty, forced beyond the swelling, and the child was delivered. Some months, however, after the patient's delivery, the tumour inflamed and suppurated, and the discharge from it was such as greatly to have emaciated and enfeebled her. A gentleman, who was called to her assistance, requested my advice. But when we consulted together no right judgment could be formed, because the tumour filled up the whole vagina, and the os internum could not be felt. We recommended milk diet. Some time after the consultation we were called again, and found the swelling forced down without the external parts, so that we could plainly feel the os internum, to the side of which the tumour adhered by a very short neck, about an inch thick, and of a livid colour towards the lower part. The os internum was pulled down in such a manner that the lips were perceivable, together with the upper part of the tumour, which had not as yet changed colour. Round this a firm ligature being made, the tumour was amputated, when we found the lower part of its neck already livid. Before this separation, the patient had been tormented with violent pains, FROM THE PULLING DOWN OF THE UTERUS AND THE STRAINING OF THE LIGAMENTS; and at the time of the operation she was already much exhausted, so that she died in two or three days after the excision. The body being opened, the under side of the uterus was found mortified, and the right side adhering to the neighbouring parts, by which the ovary and fallopian tube of that side were covered and concealed. The tumour, being cut open, appeared to be a solid, firm, glandular substance." Of the numerous recorded cases which are reported to have proved fatal under the treatment by the ligature, it is to be presumed that a large proportion of their subjects may have sunk under the effects of its misapplication and mal-management; and this observation is made without intending any personal disparagement; for

otherwise it might reach some of the most distinguished practitioners both of medicine and surgery. During the presence of a large and strongly impacted polypus within the vagina, it might be found exceedingly difficult, or perhaps impossible, to ascertain by the taxis the precise source of its origin. Add to this the fact, that the actions, both of development and suspension from their source of origin, of pediculated tumours, must obviously have the effect of bringing after them, to a distance from the natural level of the surfaces whence they spring, certain portions of the more relaxed and distensible tissues of the parts so acted upon. Hence we have known examples of stems of some polypi of which the constituent structure had been no other than so many elongations of the proper tissue of the organ which had given them. The honest case of Dr. Denman, reported in his *Introduction*, 4th edition, § v. p. 74, and illustrated in our pl. XXI. B, faithfully copied from the original engraving, furnishes a most apposite example of the fact here stated. In Dr. Denman's case the stem of the tumour was a prolongation of a part of the uterus in a state of inversion. But the reasoning must be supposed to apply nearly equally, at least as a matter of possibility, to cases of vaginal polypi, in common with those of the uterus. If the fact thus represented be undeniably true, it cannot be a matter of wonder that the ligatures used for the removal of tumours so circumstanced should occasionally be applied to elongated portions of the organs themselves from which they derive their origin. It must always however be some imputation on the professional dexterity or knowledge of a practitioner, if he should unfortunately be concerned in an unsuccessful operation of this description. The following narrative, communicated by Mr. Fordham, of South Audley-street, to the editors of the *Medical and Physical Journal*, in 1811, is however cited in illustration of the danger attendant on a mistaken diagnosis in a case of this kind :—" On Wednesday, the 17th of April, I was requested to attend Lydia Handy, about thirty-five years of age, residing at the Three Compasses, Mount-street, Grosvenor-square, who, I was informed, had been in lingering labour from the Saturday previous to my being sent for. After waiting a short time, she had several very strong bearing-down pains; and, upon examination per vaginam, I discovered a very large tumour, of the sarcomatous kind, pending by a stem without the os externum; which, on making a strict inquiry, she informed me she had been troubled with for the period of twenty years. At first it was the size of a walnut, but afterwards it gradually increased to its present bulk; so that it must have originated at a very early period of life. After her labour had gone on in a regular way, she was delivered of a dead fœtus. Being rather a singular case, I requested Dr. Clough might be called in, who immediately attended. Upon his arrival, I informed him, that although the fœtus and secundines had been for some time extruded, the patient had yet very powerful and strong uterine contractions, as if there was something more to be expelled; and requested him to make an accurate examination per vaginam. He found a polypus of very large dimensions, attached by a pedicle of considerable thickness, which was then pushed up into

the uterine cavity. This the patient herself had done in my absence, as she had always been accustomed to do on former occasions, either during her labours or afterwards, or in the act of walking, without the smallest pain or inconvenience. On going the shortest distance it often protruded; and, by stepping aside, she could immediately replace it, without paying any further attention to it. As she did not complain of any pain when it was compressed, we determined upon passing a ligature, which Dr. Clough, with some difficulty, effected, and passed it completely round its stem: and although it was drawn tight, and a portion of the vagina was unavoidably included in the ligature, it gave her no sort of pain or uneasiness, nor produced vomiting: it was therefore suffered to remain, in the hope that, by a successful operation, she might have been released of the polypus in a few days, by the putrefactive process; as she had not been indisposed previously to the commencement of her labour, excepting from the effects of a constant leucorrhœa, which had exceedingly reduced her. On the following morning she had several loose stools, unaccompanied by the least griping. She continued lingering during the subsequent day, and about six in the evening she expired. Permission being obtained to open the body, that duty was performed by Mr. Chevalier, in the presence of Dr. Clough, Mr. Kitching, and myself. The polypus was found, as before described, in the posterior part of the vagina; no particular disease existing in the uterus or its appendages. There was a slight degree of inflammation in the colon and larger intestines. The uterus and its appendages, together with the polypus, were dissected out; and an incision was made in the latter, in order to discover its true texture. Dr. Clough considered this polypus the largest he ever saw, with the exception of two which he had seen in Dr. William Hunter's museum. Its appearance, he further observed, was very similar to that of the excrescence from the fundus uteri, with an inversion of that organ, of which Dr. Denman has given a delineation in his series of engravings on this subject." See our pl. xxi. B. "It measured, from the beginning of the stem to the apex, eight inches, seven inches and a half in circumference, three inches in the thickest part, and was in weight one pound four ounces. E. P. Fordham."

In reflecting upon the facts of some of the above cases, we must presume that the fatal event had been really the result of inclusion within the noose of the ligature of portions of the proper tissues of the uterus or vagina, or of both. But is the fatality of the event to be ascribed to the same cause in all cases which have proved fatal under the treatment of uterine and vaginal polypi by ligature? It is not quite certain that the stems of all polypous tumours are devoid of sensibility to pain from pressure, and other causes of irritation; whilst, on the other hand, there are now on record a good many cases of removal of the greater part of the uterus itself, and even with impunity to the patient's life, by a well-managed constriction of its neck. It should seem therefore a matter of more correct inference, that death, when it does occur, is more frequently to be ascribed to the mal-management of the treatment now under discussion, than

to its unavoidable tendency to produce a disastrous event. In the histories of almost all the cases which we find recorded, of deaths from the action of ligatures on the stems of polypi, no matter of what kind of tissue, we may generally observe, that the idea of occasionally relaxing their constricting force over the substance of the pedicle, has very rarely presented itself to the minds of the operators. In the fatal case of Dr. William Hunter we are informed, in the very words of that eminent man himself, that "he begged his patient to bear the pain, that he tightened the ligature, gave her an opiate, and LEFT HER TO THE FUTURE CARE OF HIS FRIEND; who afterwards informed him that the pain had been violent, but that subsequently it had ceased, and that the patient was dead." And what, again, was the management of the fatal case in Bartholomew's Hospital? Let the reporter also of that case furnish the true answer. "The ligature was applied round what was supposed to be the tumour. It occasioned little pain WHEN IT WAS FIRST APPLIED; but towards evening it became so severe as to resemble labour. It was relieved by an opiate, so that she passed a comfortable night; but the next day the pain increased, extending up the loins and down the limbs. The ligature was tightened every day, with a recurrence of pain, which required an opiate." She continued to have much pain, with vomiting, and with deathlike faintings and cold sweats, till the fifteenth day after the operation, when, it is scarcely necessary to add, she sank under her miseries. Compare we the pertinacious violence of the treatment of both of the above cases with the cautious management of the very same power as it was applied by Dr. Denman, to the case already quoted in p. 615. During the treatment of this case Dr. Denman WITHDREW AND REAPPLIED his ligatures at least five different times, and was therefore successful in happily restoring his patient "to perfect health." In the valuable work of Herbiniaux on uterine polypi, we have several examples of the same judicious and successful practice, of which the author begs permission to present his reader with an abridgment at least of one or two of the most practical and interesting. Mad. Brisbarb was delivered of her first child, after a good labour, in July 1767. Some months afterwards she sustained frequent and profuse hæmorrhages from the uterus. In 1768 she became the subject of other discharges from the same organ. After taking several opinions on her case, and many vaunted medicines for its cure, she placed herself under the professional care of M. Herbiniaux in July 1769; who soon ascertained that she was become the subject of a uterine polypus, of about the size of one's fist. On the 14th of the month already named, M. Herbiniaux, in the presence of the ordinary physician of the family, applied in his usual manner, and with his own instrument, a ligature to the stem of the tumour. On the following morning he found his patient somewhat better, and he was induced to tighten his ligature; which was however soon followed by acute pains about the loins. Whilst tightening the ligature, he more accurately ascertained than he had done before, that he had to do with a polypus, of which the stem was unusually large,

and gave the impression of its possessing great resistance. At this period the patient suffered so severely from the pressure of the ligature, that she never ceased to utter loud complainings. This state of things suggested to the operator the idea of effectually strangulating the pedicle of the tumour, so as at once to destroy all communication between it and the uterus; which of course would have the effect of totally depriving it of its ordinary means of life and sensibility. But this service, in addition to its having already been found exceedingly difficult to accomplish, was followed by very alarming symptoms; such as pains which became absolutely intolerable; so much tenderness of the abdomen as to have made it impossible for the patient to bear the weight of the bed-clothes, and strong convulsive action of the muscles of the lower extremities. Alarmed by these symptoms, M. Herbiniaux felt himself obliged to relax his ligature, and afterwards to change its position; thinking it possible that he might have included within its noose an inferior part of the uterus itself. On its reapplication he accordingly included within its grasp a part of the pedicle, at least an entire inch lower than that to which it had been previously applied. In tightening it, which he did pretty effectually, he again encountered the same impression of resistance that he had done on the former occasion; and in the course of a few hours afterwards the patient as before became the subject of convulsions of the lower limbs. She was, however, left TWICE in the state here described for four-and-twenty hours. "At length, however," proceeds the reporter of the case, "the hands and feet lost all their natural warmth, the lower extremities became more constantly and convulsively contracted, and the face was covered with cold sweats; and I felt afraid lest I should have to witness in my patient's death a speedy termination of her sufferings; I was therefore again obliged to loosen the noose of the ligature; and it was withdrawn altogether." At this period the tumour was found considerably reduced in volume; and the discovery of this fact served again to revive the hopes both of the patient and of her medical attendant. Accordingly, in about six weeks afterwards, a third ligature was applied to the stem of the tumour, of which the cord was much narrower than that of the preceding; an arrangement which was adopted with a view to its making its way through the substance of the pedicle more easily and rapidly. The noose was thrown over the same tract of tissue as had been included within that of the first ligature; M. Herbiniaux having now ceased to be influenced by the notion that any portion of uterine structure had ever been implicated in the operation. He accordingly proceeded in the further conduct of his case with much more decision as to the amount of pressure applied to the pedicle than he had used on either of the former occasions, but with scarcely any better result; for, in a very few days subsequently, the same accidents again recurring compelled him to relax the ligature. Towards the beginning of September the body of the tumour was diminished to about half its original size; but as to the thickness of the pedicle, the noose of the ligature had effected no sensible reduction of

it. "Unwilling to give up all hopes of accomplishing my object," proceeds M. Herbiniaux, "I resolved to make one more attempt; but it was followed by so many frightful symptoms, that from that time forward I despaired of ever succeeding in my object BY STRANGULATING THE NECK OF THE POLYPUS. I accordingly withdrew my instrument, leaving however the cord loosely coiled round the stem, with a view to its application to another project which I was then about to form, viz. that of cauterising the entire mass." The project here mentioned was carried into partial execution; but it failed of success. The only apparently remaining resource left to the enterprising surgeon and historian of the present extraordinary case, was that of effecting the removal of the tumour by amputation. Not, however, perfectly assured that the uterus might not be either partially or wholly inverted, he felt no disposition to undertake that operation without previously bringing within his view the whole of the tumour. After several very painful and unsuccessful attempts to carry into effect this preparatory part of his scheme, he at length fully accomplished his object. He then, without loss of time, after recovering and securing his possession of the polypus, by replacing his ligature to its stem, preferring for that purpose the precise part of the pedicle which had been included within the noose of the first ligature, proceeded to complete his intention; which he effected by one stroke of his knife. The amputation was made about a finger's breadth below the noose of the first ligature. The fundus of the uterus appeared to be partially inverted, but no part of it, whether having sustained any inversion or not, had been included within the noose of the ligature. Immediately after the separation of the tumour from the uterus by the operation just described, that organ immediately disappeared by being forcibly retracted high up into the pelvis. Consequent upon the excision of the tumour, there was no discharge of blood; but as to many of the other symptoms, they were not a little aggravated subsequently to the operation. The patient very soon afterwards became the subject of such frightful pains, that she expressed her miseries by the most piercing cries. Her abdomen became much distended, and exquisitely painful to the touch; and towards evening all her extremities were affected by convulsions. At midnight her breathing became exceedingly laborious, her voice was no longer audible, and her pulse became small and intermittent; and, in short, "every thing," observes M. Herbiniaux, "made me fear that her death was near at hand, and I was compelled, at the peril of hæmorrhage, to loosen the ligature. I began with slackening the tourniquet in a very small degree. No blood issued. Emboldened by this result, I went on gradually to relax it until the storm of the patient's agonies subsided into a perfect calm." On the sixth day after the operation, the ligature came away without any hæmorrhage. The suppuration was but moderate during the convalescence; and it entirely ceased on the eleventh day. After that period the patient recovered so rapidly that in six weeks she was able to resume her ordinary occupations. *Traité sur les Polypes. Obs. xvii. p. 107.*

Another patient of M. Herbiniaux became the subject of the operation of the ligature, on the 4th of October, 1778. She was a woman of large stature and robust constitution, aged thirty. The body of the polypus was of considerable volume, and the stem four inches in circumference. In two hours after the application of the ligature the patient felt acute pains at the part included within its noose. She was treated by one ample bleeding, warm mucilaginous drinks with nitre, and suitable fomentations to the abdomen. Her pains, however, became aggravated during the night to a degree to require a relaxation of the ligature. On the subsequent day there moreover supervened pains of the chest and stomach, a fever of some intensity, frequent faintings during the day, together with certain other symptoms indicative of a disposition to hysteria. Anti-hysterics and sedatives were prescribed with advantage. On the 6th, the ligature was tightened with much caution. Antiphlogistic remedies and fomentations were employed with great regularity. On the 7th, the ligature was again moderately tightened; and the day passed tolerably well, although the pains of the hypogastrium had from time to time returned; the night also was a pretty good one, the patient having slept for four hours without interruption. On the morning of the 8th she was seized with a shivering, which was shortly afterwards followed by faintings, intumescence of the abdomen, severe griping pains of the hypogastrium, and a return of fever. Aperients and small doses of camphor were exhibited; but the ligature was not relaxed. On the 10th it was again slightly tightened. On this occasion it was ascertained that the stem of the ligature was of an exceedingly firm texture; which, together with a predisposition on the part of the patient to spasmodic affections, furnished the surgeon with a motive for proceeding with his operation very slowly and deliberately. The ligature was accordingly relaxed; which gave very sensible relief. On the subsequent day, however, in consequence as it was supposed of the influence of A MORAL CAUSE, there supervened violent pains of the hypogastric and lumbar regions of the abdomen, much nausea, convulsive movements of the extremities, and a burning fever. The tongue, however, still continuing moist, the ligature was not slackened. Opiates, fomentations, and emollient enemata, were administered. On the 13th there presented itself a profuse discharge of putrid serosity from the vagina. Camphor was prescribed. On the 14th, the ligature was firmly tightened, which however was followed in about an hour afterwards by much aggravation of the pains, general convulsions, and a frightful delirium. The ligature was of course unavoidably relaxed, and a grain of opium was ordered to be administered every three hours. Three grains were thus exhibited before the patient recovered her previous state. On the 15th she was tranquil. On the 16th the ligature was again tightened; the pains returned, but without convulsions and without delirium. On the 17th, the discharge of serosity was so abundant, that it soaked eight or ten folds of thick blanketing, and penetrated to the mattress. But although more fœtid than before the operation, these serosities had not the specific odour which

usually indicate a putrid condition of polypous tumours. Curious to know the actual state of things, M. Herbiniaux determined to ascertain the colour of the presenting mass, and found it still of a whitish hue, and therefore but little disposed to putrefaction. Meanwhile time passed away, and the poor patient became daily more and more emaciated, and dreadfully discouraged. On the 18th, the ligature was again tightened, which was followed by an aggravation of the pains, by fever, and the other symptoms already enumerated. Camphor draughts were exhibited. The ligature was not disturbed. On the morning of the 19th the patient was tranquil. On the 20th the noose of the ligature was drawn tighter, but in two hours afterwards the pains, convulsions, and delirium, returned with great severity; the ligature was partially relaxed, and the sufferings of the patient correspondingly abated, the abdominal pains however remaining, but without being accompanied by convulsions. On the 21st the respiration became so oppressive as to threaten extinction of life: the ligature was relaxed. On the 22nd it was again tightened for the last time; but the very act of tightening it was followed by symptoms so terribly alarming as to have required its immediate relaxation. Harassed by these grievous disappointments, and despairing of being able to extirpate the tumour by the ligature as ordinarily employed, M. Herbiniaux at this period conceived the idea of effecting its extirpation by the action of sawing through its pedicle by means of the ligature as his instrument. But before he engaged in this attempt, he thought it his duty to inform himself accurately as to two points, i. e., first, the nature of the tissue of the pedicle, and the amount of impression already made upon it by the ligature; and, secondly, the best method to which he could have recourse in order to arrest hæmorrhage, in case it might supervene. In respect to the former object, he discovered that the stem of the tumour, besides being of very firm texture, was, at its exit from the uterus, about the thickness of a man's arm, and that the circular cut or channel made into its substance by the noose of the ligature, appeared to warrant the belief, that its interior could scarcely contain blood-vessels of such magnitude as should cause much anxiety for the result of an operation such as he had contemplated. After describing the arrangements which he had made for the execution of his ingenious project, and his mode of locating the ligature in the circular channel in the substance of the stem of the tumour, by the production of which he had a right to believe that he had, at least partially, already accomplished his object, M. Herbiniaux proceeds to complete his account of its performance and results as follows: "This cautious alternate movement of the ligature from one side to the other, had the effect very speedily of penetrating into and sawing through the substance of the pedicle; for the action of the instrument was almost immediately followed by an appearance of blood. As for the amount of pain produced, it was so far supportable as to convince me that my mode of operation was founded on an excellent principle. But I waited to see whether any blood continued to distil from the vagina: the hæmorrhage had however soon ceased.

In the course of a few hours, my simple flexible saw was applied again, and with admirable effect. After it had been actively employed for about a quarter of an hour there presented a discharge of blood, somewhat more considerable than had taken place at the commencement. I therefore, for the time, felt myself satisfied with what I had done. On the following day, however, finding my patient very tranquil, I returned to my charge. In less than a quarter of an hour, the pedicle of the tumour was sawn entirely through, without being accompanied or followed by any further discharge of blood. This important result having been obtained, the patient was left to her repose for five or six hours; whilst, in the mean time, I made the necessary preparation for the final removal of the polypus. Its great size and firmness of texture not permitting me to effect its extraction with a pair of small forceps which I had got made for the occasion, I found myself under the necessity of having recourse to the use of a pair of common obstetrix forceps; adopting, however, the precaution of effecting the dilatation of the orifice of the vagina very gradually and cautiously, with a view to avoid the laceration of the fourchette; an accident, nevertheless, which was not altogether avoided. The extraction having been accomplished, the tumour was found to measure thirteen inches in circumference where it was largest, and its pedicle six and a half; and in length, from the apex to the line of excision, seven inches. On making an incision into its interior, it was found throughout to consist of the same substance, which was an assemblage of all sorts of fibro-tendinous interlacements. It was in no degree hollow within, as is sometimes the case; nor was there to be seen any vestige of a blood-vessel. The ligature had entered into the tissue of the pedicle, to the depth of from five to six lines; and the central portion, which had been cut through by the action of sawing, as above described, was much more uniformly solid as to its texture than any other part of the tumour; so that it presented a striking resemblance to a tendon cut through with a bad instrument. The pain sustained by the patient during the moment of extraction threw her into great agitation; and she accordingly relapsed into convulsions and delirium: but she had a sleep of eight hours during the night; which had the effect of restoring her to her former state. The 26th passed off exceedingly well, without fever, without pains, and with but very little discharge. On examination per vaginam, the uterus was found nearly closed, and its orifice in a very natural state; as was also the vagina. At the beginning of November the discharge had entirely ceased; and the patient recovered her strength so rapidly, that on the 12th of the same month she returned to her friends perfectly restored to health." It has been observed, in a foregoing page, that in England we seldom practise the treatment of extirpation of polypous tumours by ligature, excepting on the principle of its being employed and relied upon as a sole measure. It is a fact of equal importance, that in France it is scarcely ever had recourse to excepting as an initiatory measure, and precautionary against hæmorrhage. Which is the better practice? To ascertain this point, and if possible to settle it, would ap-

pear to be a matter of great practical importance. Neither, probably, could be considered as universally preferable, or even properly adapted for all cases. In a large majority of cases the treatment by the ligature alone, as adopted by English surgeons, is not only safe, but also very rarely attended by any serious inconveniences. The most dangerous symptoms incident to many cases of uterine and vaginal polypi, is that of their being complicated with frequent or profuse hæmorrhages. If, with some writers, we believe that such hæmorrhages are essentially attributable to great vascularity of the constituent tissue of certain tumours of this kind, added possibly to a more than ordinary activity of the circulation of blood through them, the more immediately obvious and *prima-facie* remedy would be, the speediest possible subduction of the symptom by applying an instrument on the principle of a tourniquet to the great trunk or trunks of the blood-vessels by which those of the polypus might be presumed to be supplied with blood. It would be absurd, and dangerous in the last degree, to have recourse to the knife in cases of this kind, without previous application of a ligature to the stem of the bleeding mass. After the suppression of the hæmorrhage, ample time would generally be afforded for deliberation, and for the choice of ulterior measures.

On this subject Dr. Gooch observes, that frequent hæmorrhages “ drain the circulation to the lowest point compatible with life, till at length a fresh hæmorrhage occasions a fainting fit or convulsions, in which the patient dies. It is a practical rule, therefore, of vital importance, that whenever hæmorrhage from the uterus resists the ordinary means, the nature of the case should be certified by examination.” Of the treatment by ligature he proceeds to observe, “ I have never used any other means ; and as it has served me successfully for many years, and in numerous cases, so that I wish I had as good a cure for all diseases, I shall not abandon it for the knife ; which, if I may judge from cases which have been related to me, is not always so safe and successful.” These statements are perhaps more strongly expressed than can be allowed to be fairly deducible from the premises. In the one case, the conclusion is properly drawn from premises within the knowledge and experience of the writer, and in the other from the hearsay testimonies of strangers. Dr. Gooch has himself quoted cases which had terminated fatally under the treatment by the ligature. It is true, indeed, that he considered the inclusion of the uterine or vaginal structure as the only source of danger attendant on the operation. But after the perusal of the above cases recorded by Herbiniaux, and many others containing facts to the same effect might be quoted, is the reader prepared to accede to that opinion ? In the report of each of those cases, it was distinctly ascertained that no fibre of uterine tissue had been included within the ring of the ligature ; and yet, if immediately after the application of the ligature, one of them had been entrusted to the future exclusive care of an incompetent friend, and the other had been daily harassed by renewed tightenings of her ligature for an entire fortnight, without being allowed one

hour's mitigation of the torments inflicted upon her, it is morally certain that both of them must have perished miserably; leaving M. Herbiniaux to the consolation of having his mind easy because his intentions had been upright. It would appear, then, an indispensable rule of practice in the conduct of the treatment by ligature, to abate from time to time the severity of its pressure, and even occasionally to suspend its action, or to withdraw it altogether. Dr. Denman's case, already cited, furnishes a good exemplification of this practice. The reader must recollect, that, in the management of that case, the ligature was relaxed, and then tightened, withdrawn, reapplied, and tightened again many times; and that the operation was not completed till after the lapse of several months. On deliberating dispassionately, however, on all the circumstances of Dr. Denman's narrative, the extreme severity of the pains which, on so many occasions, the patient had to endure, it seems scarcely possible not to wish that we might be able to attain our object with equal certainty, but by safer, and gentler means. Such the author thinks may be readily found by the adoption of the French practice, of first tying the stem of the tumour more or less tightly, always sufficiently to arrest the circulation through its body; and then, after the lapse of a certain interval, which of course should have reference to the particular circumstances of the case under treatment, that of amputating below the ligature. In the greater number of cases there would be no paramount inducement to perform the amputation part of the operation in less than fifteen or twenty hours after the application of the ligature. During that period the practitioner would be able to see farther into the symptoms, occasional developments, and probable results, of his case. In ninety-nine cases out of a hundred, he would have the satisfaction, on the day after that of the operation, to find his patient in good spirits, but without febrile excitement and without pain, and therefore without any symptom of any kind which could be recognised as indicative of dangerous or even of serious results. In a common case of this description, the stem of the tumour being one of smallish or moderate thickness, and devoid of sensibility, what possible motive could induce any thinking practitioner, of adequate experience, not to proceed at once to the next step in the prosecution of his object? Under the circumstances supposed, amputation might no doubt be performed, not only with advantage in respect to the present comforts of the case, but compatibly also with the utmost safety of its ultimate issues. In the management of a non-vascular tumour of this kind, provided the fact of its feeble circulation could be ascertained beforehand, it is well known, from the results of such practice in France and Germany, that amputation might be resorted to with perfect impunity, even without any previous tying of its stem. But the difficulty of this part of the subject is, to arrive at the fact of the comparative non-vascularity of a polypus, with SUFFICIENT CERTAINTY. The greater number of very hard tumours, of long standing, are never supplied with large quantities of blood; the hæmorrhages not unfrequently accompanying such cases being furnished by

proper uterine tissue, from the immediate neighbourhood of the root of the stem. The character of a polypus, as to its vascularity or non-vascularity, is also in a certain degree ascertainable by means of the speculum. Polypi being essentially destitute of sensibility, their amount of vascularity may likewise be considered in a great degree ascertainable by passing into their substance pointed or finely-edged instruments. This rule is, however, not to be depended upon as one absolutely without exceptions; inasmuch as there are some few recorded examples of polypi which, after their removal, were seen to have been very vascular in their interior and near their centre, but without the appearance of a vestige of vascular tissue near their external surface. Dr. Gooch justly observes, that "the internal structure of polypus, in most cases, exactly resembles the internal structure of the large white tubercle; so that a person looking on a section of the one and of the other could not distinguish them." If this opinion, which was also that of Dr. Baillie, be well founded, and it may be most easily attested in any considerable museum of morbid anatomy, it follows, that the greater number of polypi are of a tissue incompatible with any great amount of vascularity of their proper substance. A due estimation of this fact would appear obviously to lead to the conclusion, that in a large majority of all existing cases, amputation might be safely performed, even without the previous use of the ligature. On the other hand it might be fair to presume that soft polypi must be vascular. They generally are so, but not necessarily, and proportionally to their softness and pliancy of tissue. Hence the fact, that many of them when wounded, are found to discharge only a muco-lymphatic fluid, slightly tinged with blood. Tumours of this class can generally be removed, both with safety and great facility, by means of the ligature alone. Readily cognizable by the taxis to be of parasite texture, the firm investiture of their stems by a ligature could not be reasonably expected to produce pain, nor, until after the commencement of the putrefactive process in them, any other inconvenience to the patient. In all these cases, therefore, excision, either immediately, or in the course of a very few hours after the application of the ligature, might be advantageously practised, as a preventive of the annoyance which might be expected to result both to the patient and her attendants, during the putrefaction of so large a mass of animal substance as the whole body of the polypus.

There now remain for consideration the very small class of tumours of which the stems must be supposed to possess sensibility to pain and other impressions. Tumours of this class may be presumed to consist of two varieties, viz., those represented by the fatal cases of Hunter, Denman, and Abernethy, and those represented by the two severe cases quoted from Herbiniaux. The author is of opinion that the French combination of the treatment, first by ligature, and afterwards by Imputation, is the proper practice to be adopted in both of them. The stems of the former are assumed to consist, either wholly or in part, of uterine structure; and therefore to be as much endowed with sensibility as any other part of that organ itself. Now, the

inverted uterus has been so often removed with impunity by means of the ligature, that it is a matter of no dubious inference, that the operation by ligature could not be essentially a fatal one when performed on the same tissue, and only differing in the accidental circumstance of being complicated with a polypus depending from it. It would probably be the safest course, in undertaking the management of cases of this description, to proceed under the assumption of their being actually fungoid bodies, suspended by a prolongation of UTERINE TISSUE. The stem MIGHT indeed consist partly of uterine, partly of parasite tissue. Should the practitioner be able to recognise the line of demarcation, he would of course feel it his duty to select the part immediately above it for inclusion within the noose of his ligature; should he not, it would be his best practice to include a part of the stem moderately distant, suppose from half to three quarters of an inch, from the source of its origin. If, after such precaution, the tightening of the ligature was felt to produce much pain, either immediately or in a few hours subsequently, it would of course be a matter of great probability that an uterine part of the stem might really be included within the noose of the ligature; which of course should furnish an indication for effecting a change of its position; if, perchance, there might a sufficient length of the entire pedicle to admit of its being brought lower down. If, after the reapplication of the ligature, and consequently upon its being again pretty moderately tightened, the pain should be renewed, and become gradually more and more intense; then, of course, the practitioner would have to proceed as if he were confident of his having to deal with a polypus suspended by a stem, consisting either partially or wholly, and more probably the latter, of uterine tissue. Assuming that fact, then the subject of his first consideration would naturally be, that of the mode of conducting the process of constriction in the best manner. In the management of most of the fatal cases of this kind which we find recorded, there is no manner of doubt that a most blamable excess of force had been made use of during the greater part, and in some cases during the whole, of the process; and hence, as the author most sincerely believes, the fatality which has too frequently attended this method of treatment. It might, indeed, be impossible to lay down a precise rule as to the proper measure of force to be employed during the whole of the procedure, and applicable to all the possible circumstances and subjects in which it might be required to institute it. Our principal subject of consideration should be, the amount of tightness to be given to the ligature in the first instance; when, whether, and to what amount it should be relaxed; the frequency and duration of its periods of relaxation; and the indications by which the practitioner's conduct should be governed relatively to these several objects of his duty. It may be laid down as at least a plausible general principle, that a very moderate pressure, persisted in for a considerable length of time, an amount of force of constriction we will suppose which might suffice to produce a mere consciousness of inconvenience, a state of dubious

approach to suffering not incompatible with a moderate enjoyment of the power of sleeping, might be competent to accomplish the whole object of the operation with equal certainty and safety. The amount of constriction here supposed could scarcely be expected to produce, at any time, a degree of phlogosis even of the part immediately embraced by the ligature, which could be identified with acute or even sub-acute inflammation of it. But this procedure requires no such excessively slow progress as we have here suggested. The ligature, on the contrary, might almost always be drawn moderately tightly even on its first application; and so left, without being relaxed for eight, twelve, or twenty hours. In the event, however, of its producing much pain within an interval of shorter duration, all that would be required would be to slacken it, and to leave it so slackened for an interval of time about equal duration. These alternations of tightening and relaxing at uncertain periods would be to be determined by the changes which might occur in the state of the symptoms. But at no time should the pedicle be subjected to so much force of pressure as might expose the patient to the liability of becoming the subject of intense febrile action, of convulsions, or of delirium. With the exception of convulsions in cases of hysteria, these several symptoms would indicate strongly the propriety of freely relaxing the noose of the ligature without loss of time, and of leaving it relaxed as before for several hours, or possibly for a day or two, subsequently.

It would be difficult to say beforehand, with any degree of accuracy, what length of time this treatment might be required to be continued, before it might be expected to produce the whole of its intended effect, provided the practitioner had proposed to himself the entire removal of the polypus by the action of the ligature as a mere constrictor. The period would of course be lengthened in proportion to the slowness of progress of the several stages of the operation. But the ligature would certainly not require to be continued in application until it should make its way through the entire stem of the polypus; for it might most assuredly be removed with perfect safety as soon as it could be supposed to have produced a permanent arrest of the circulation within its vessels. The fact however of that object having been obtained, would require to be fully established before it could be proper either to withdraw the ligature, or to proceed to amputation below it. For this purpose the loop should be applied tentatively, after the manner of a tourniquet, to the stem of the tumour, small incisions being previously made into its substance, at some distance below the ring of the cord, in order to ascertain how far the relaxation of the instrument might or might not fill the gashes of such incisions with blood. This test might be made available repeatedly, until blood should cease to appear in consequence of the relaxation of the tourniquet. Excision might then be performed without fear of consequences; after which the tumours should be withdrawn as speedily as practicable, and the chamber which it previously occupied cleansed out by injections of sedative and demulcent fluids very gently administered. These duties having been per-

formed, together with any others which might require the patient to use personal exertions, such as might produce even a temporary excitement of the circulation, the tourniquet might be gradually and of course most cautiously relaxed, without however being finally withdrawn. Any further services on the part of the practitioner would then most probably present themselves to his attention, as specially indicated by the structural character of the interior of the extirpated tumour. Should the upper portion of the amputated part of the stem appear more than ordinarily vascular, it would seem proper to continue the ligature in application, with its noose only very slightly tightened for a few hours, or a limited time afterwards. If, on the other hand, the appearance of the pedicle should be such as to furnish the indication of an almost entire absence of vascularity, there could no longer remain a motive for any further employment of the instrument, and the patient might be expected to recover her health and strength speedily. In case of much apprehended vascularity of the tissue to be amputated, the ingenious operation of M. Herbiniaux might be made an admirable substitute for that of excision, as now generally practised, by means of an edged instrument. That operation, in common with almost every other movement or action which could be required from the use of the ligature, may be ensured of easy performance, by a moderately dexterous employment of Desault's instrument, or rather instruments, modified as represented in Pl. xx. c. For further information, including reports of many important cases on the subject of the present article, the reader is respectfully put in possession of the following list of references. *Hist. Instrument. ad Polyp. extirpationem, eorumque usus Chirurgici.* Auctore E. Klug. Halæ, 1797. *Goertz. de Novo ad ligaturam uteri Instrumento.* 4to. Götting. 1783. *Tanner de Polypo feliciter ex utero extirpato.* Argent. 1771. *Du Fresne Ligaturæ Polyporum uteri Nova Methodus anteponenda.* Paris, 1774. *Hasselburg. Commentatio Chirurgica de Novo ad Ligat. Polyp. Instrument.* Gryphysvald. 1788. *Nissen. Dissertatio de Polypis Uteri et Vaginæ.* Götting. 1789. *Zeitmann. Dissert. de Signis et Curat. Polyp. Uteri.* Jenæ, 1790. *Heinze de Ortu et Discrim. Polyp. Uteri.* Jenæ, 1790. *Ph. H. J. Roup. Mémoires sur les Polypes Utérines.* Paris, 1809. A case of Polypus, by Dr. Denman, *London Medical and Physical Journal.* A case of Polypus, by M. Roux, removed by amputation; *Journal de Médecine, &c.* tom. xx. p. 245. A case of Polypus removed by ligature, by M. Muteau de Roquemont. *Journ. de Méd., etc.* tom. xxx. 1769. An interesting case by Herbiniaux, tom. xxxii. p. 50. Two cases in two different subjects of uterine polypi removed successfully by ligature. Both patients had been greatly reduced by loss of blood. *Nicolais du Saulsay. Jour. de Méd. etc.* tom. xxxix. p. 266. Case of a prodigious Polypus growing from the upper part of the vagina, from the place where it adheres to the neck of the uterus. The weight of this tumour was ten pounds and a half, probably the largest that has ever existed. Its length was thirteen inches and eight lines. Its figure was oblong. Its circumference, at

its most depending part, was seventeen inches and ten lines; and that of its pedicle, at its origin, six inches and six lines. Its covering was smooth and polished; and its substance was fleshy and firm. No attempt was made to remove it. It was, however, expelled from the pelvis by a spontaneous effort of nature, and by an action of the uterus similar to that of labour. When by these exertions it cleared the external orifice, which occurred on the fifteenth day after she had taken to her bed, the patient instantly expired. M. Baudier. *Jour. de Méd.* tom. lxiii. p. 372. A Tumour consisting of a large fleshy substance, weighing nearly two pounds, adherent to the uterus, with small excrescences hanging from it like teats. Smellie's *Midwifery*, vol. ii. collect. 9, p. 73. Case of Polypus removed successfully by a pair of scissors, blunted or knobbed at their extremities. This tumour became periodically tense and large, and that symptom was observed to be an indication of an approaching hæmorrhage from it. The blood on those occasions found its way through its vascular tubulated structure, and escaped at three prolongations of it, which then became so many extremities to it. After the hæmorrhage ceased, it became considerably shorter, so as no longer to present its three-headed terminations at the external orifice. The pedicle was found to grow from the posterior labium of the uterus, and a little to the right side of its orifice. It was excised as nearly to its parent surface as possible. The hæmorrhage which followed the operation was very inconsiderable. The cure was complete and final, and the patient was never troubled with any thing of the kind again. *Jour. de Méd.* par Corvisart. tom. xxv. p. 260. A rather interesting case of Polypus by M. Bolu. *Jour. de Méd.* Corvisart. tom. xxvi. p. 129. Two cases of enormous fibrous polypi developed in the vagina, brought out of the pelvis, and removed by excision of their pedicles. Neither of the operations was attended by a loss of blood; and both patients were cured in a few days, and afterwards remained well. *Bullet. de la Faculté de Méd.* No. xiv. 1820. p. 135. et *Jour. Gén. de Méd.* etc. tom. lxxii. p. 115. A case, probably of polypus, designated *Excrescentia fungosa uterum prolapsum simulans*, treated unsuccessfully by ligature. The nature of this case was not well understood. It was seen by several practitioners, who differed in opinion as to the precise seat of origin and character of the presenting tumour. Of one party it was the opinion, that it was a case of inversion of the uterus; and of another, that it was a proper fungus. In the midst of this uncertainty, and at all events, it was agreed to attempt its extirpation. For this purpose a ligature was applied to its neck. But the patient becoming deadly pale and faint upon the completion of this initiatory part of the operation, it was determined to defer the amputation part of it *sine die*. It short it was never performed. "The poor patient," the reporter observes, "being then consumptive, expectorating a large quantity of pus daily, died soon after." Upon inspection of the body after death, the tumour was found to arise from a low part of the vagina. The uterus was found in a healthy state. *Ephemerid. Germanic.* dec. 1. an. 2nda. p. 199. A case of Polypus of the Uterus consequent upon

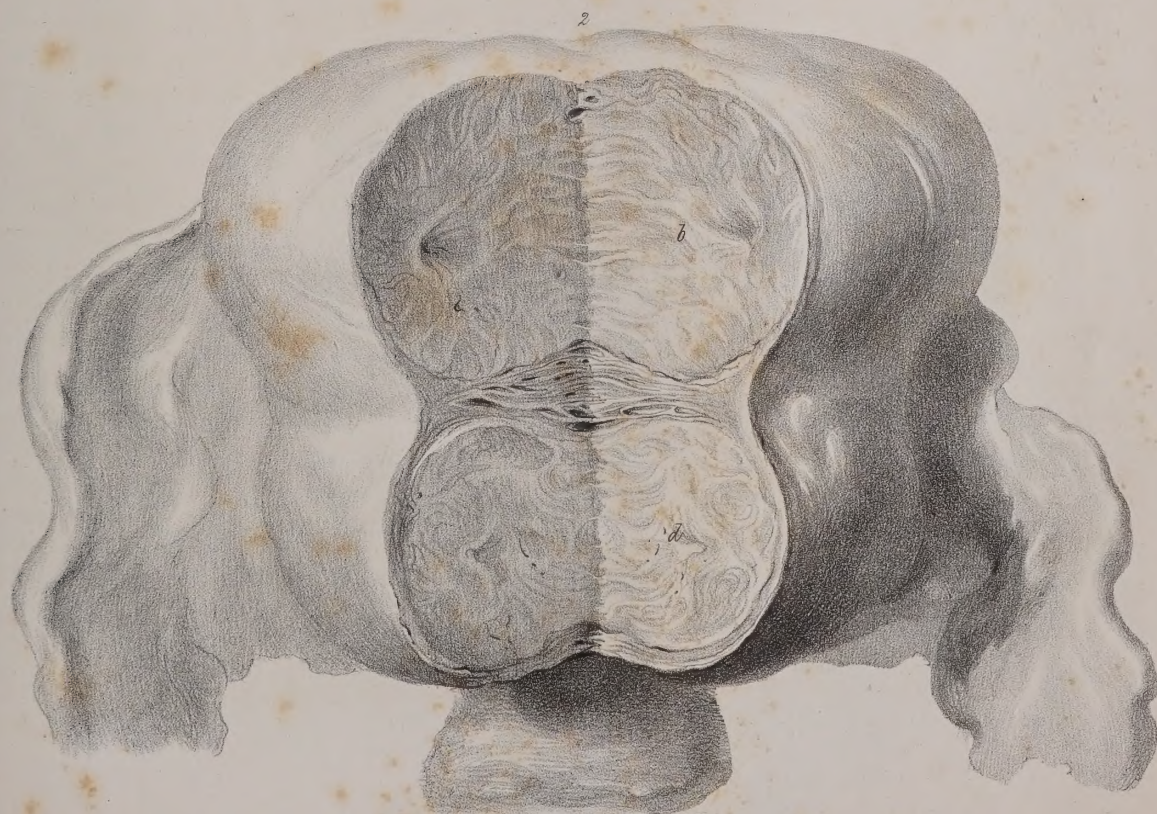
an epidemic fever. By Casper Schenck. Halleri Disput. Chirurg. tom. iii. p. 639. Venet. 1755. A case of Polypus, which adhered to the right side of the uterus, eventually protruding through its orifice, became a cause of difficult parturition. On the fifteenth day after the delivery, a pair of forceps were applied to it, in order, as it is pretended, more readily to reach its base. It was partially divided and brought away by means of that instrument. The proximate result of the operation was a great wound in the substance of the uterus. The hæmorrhage was attempted to be arrested by the use of the cautery, and by a restraining pessary. *Hist. de la Societ. Roy. des Sciences à Montpellier. Comment. de Reb. in Scient. Nat. et Méd. Gest. Lipsiæ, 1768. vol. xv. p. 203.* A learned paper, of inferior importance, on the nature and causes of Polypi. *Comment. de Reb. etc. 1789. vol. xxxi. p. 629.* A case of Polypus, of no great value, by Dr. John Burton, of York, the reputed Dr. Slop of Tristram Shandy. *Trans. of the Roy. Society of London, vol. xxvi. p. 520.* A case of Polypus, which proved fatal, by reason of its having been ignorantly and incompetently treated. The most important part of the account of it is its dissection after the patient's death. "It seems to have received a great accession of bulk from its vascularity, inasmuch as there were four branches of arteries and veins distributed throughout its substance. The arteries were very small, but the diameters of its veins were equal to that of the crurals. I made an incision into the interior of its substance, and found in the middle of it a considerable cavity, extending from its base to its apex, whence the veins discharged their blood, producing a monthly hæmorrhage." There are very few examples on record of polypi furnishing periodical discharges of blood from their surfaces. This appears to have been one of them. "Its extremities," adds the reporter, "was much contused and gangrened, in consequence of the frequent attempts which had been made to extract it." *Saviard's Surgery by Sparrow. Obs. xxxvi. p. 82.*

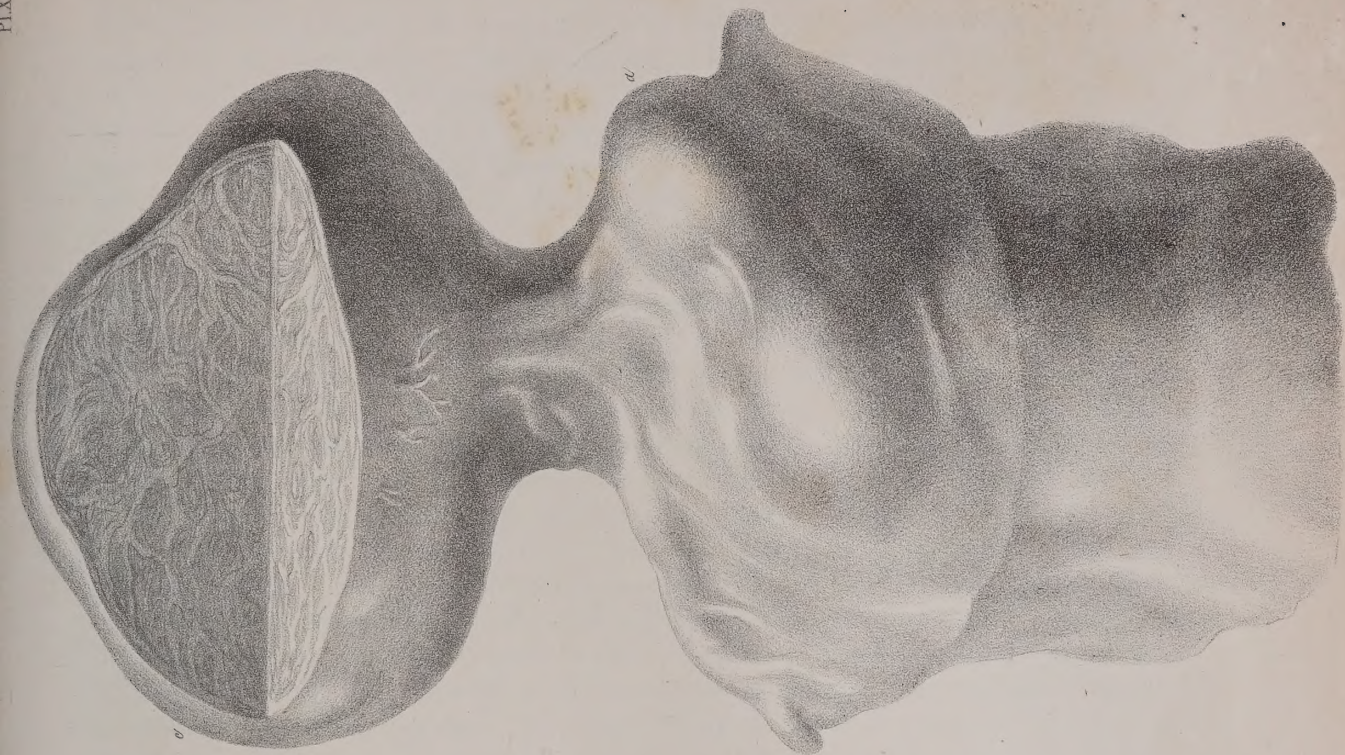
OF EXCRESCENT TUMOURS FROM THE UTERUS NOT PEDICULATED.—It has been an usual part of the description of pediculated tumours, that they are essentially the produce of mucous surfaces; and this is generally the fact; but pediculated tumours, of precisely the same tissue, have occasionally been seen to project from serous surfaces to the abdomen and other cavities. In Pl. xvi. of the present work, there are two views of a preparation, to be at any time seen in the obstetric department of the Museum of Anatomy in the University, where both surfaces of the uterus may be observed to give origin to pediculated tumours of precisely the same character of tissue; of which one, of magnitude considerably exceeding that of its parent organ, projects, pendulous by a pedicle, into the abdomen; and another, a smaller one, takes its origin by a narrow pedicle from the internal surface of the womb. With the exception of their relative locality; the tumour, in this remarkable case, which projects into the cavity of the abdomen, is as perfectly pediculated, and is in its tissue as perfectly a polypus, as the one of smaller volume, which is seen contained within the cavity

of the uterus. In both cases the constituent tissue is strictly fibro-membranous, which the reader knows to be the actual tissue of the greater number of uterine polypi.

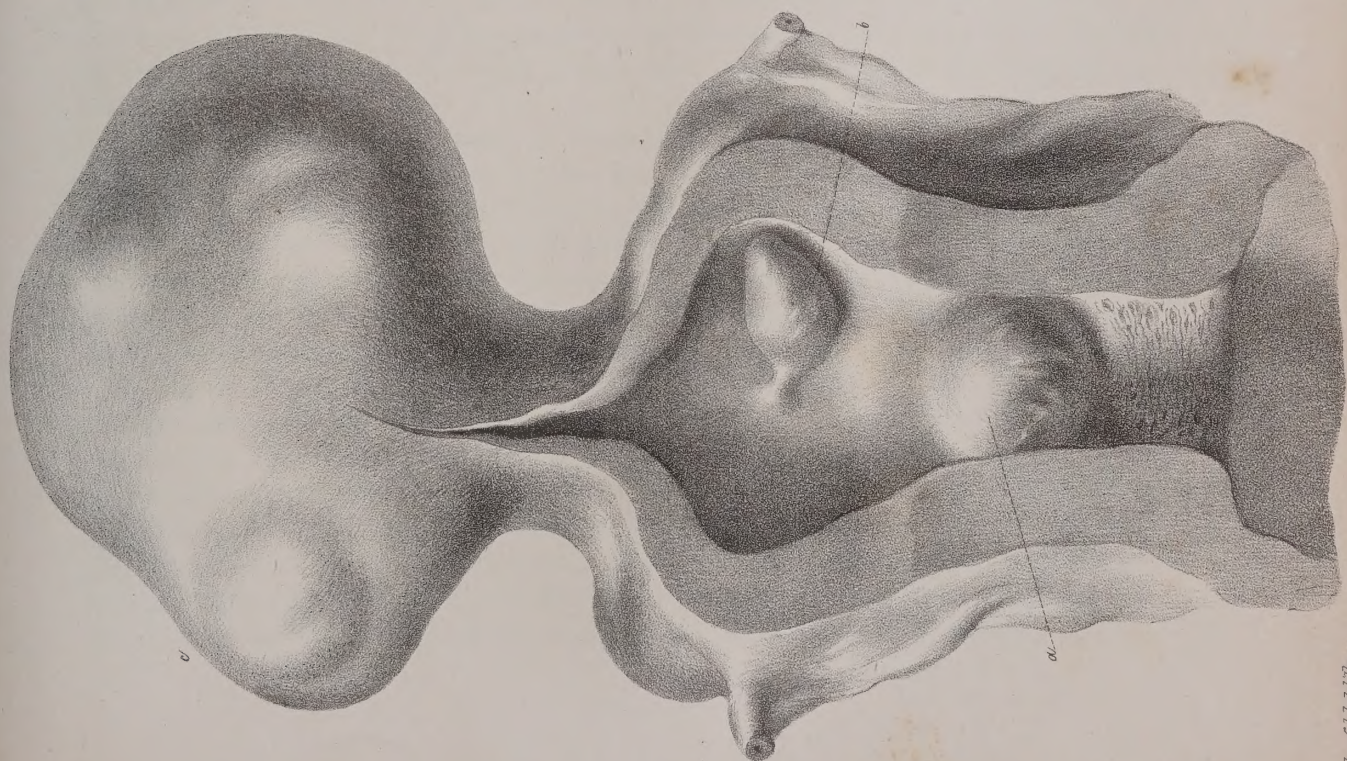
OF TUMOURS OF THE UTERUS NOT PEDICULATED NOR EXCRESCENT FROM EITHER OF THE SURFACES OF THAT ORGAN.—The class of tumours which it is the author's object more particularly to notice under this head, are also for the most part of a membrano-fibrous texture, precisely the same with that of the fleshy tubercle of Baillie. They are ordinarily hermetically included within the proper parenchymatous substance of the parietes of the uterus, possessing in fact a locality which does not approximate to either of the cavities by which they are bounded. This fact may be seen well illustrated by the knobbed protuberance, marked in both figures 1 and 2, Pl. xvi.; as also in fig. 1 of Pl. xv. The drawing of fig. 2, of the same plate, represents a tumour of similar character of tissue, which is not pediculated, nor imbedded within the parenchymatous structure of the organ itself, but contained within its cavity, and attached rather loosely by cellular membrane to its interior surface. The section represented to have been made into the substance of the tumour, exhibits distinctly its tissue to have been that of the general class of tumours under which it is placed. The remarkable looseness of attachment of the body of the tumour to the sides of the uterus, and its partial adhesion to the fundus, are pretty successfully represented by the artist. In the preparation itself, the general looseness of the connexion by cellular membrane is more marked, and the adherence at the fundus less strongly expressed, than in the drawing. This part of the case suggested to the author a mode of treatment to be applied to a similar tumour in a living subject, for which he was consulted about two years ago; which, although its immediate object failed of success, proved indirectly the means of saving the patient's life. Mrs. L., a widow lady, of about thirty-eight years of age, came from a friend's residence in Surrey, where she had been visiting, to town, on the recommendation of her friend's medical attendant, to consult an obstetric physician for profuse and frequently recurring uterine hæmorrhages, which had nearly destroyed her. The author first saw her at an hotel in Grosvenor-street, in a wretchedly pale, emaciated condition. Upon a careful examination of the tumour, he found it remarkably similarly circumstanced with that at fig. 2, pl. xv., already referred to. If therefore that of Mrs. L. should prove so detachable as that of the preparation represented in pl. xv. fig. 2, he considered that he might possibly succeed in eventually effecting its entire removal.

The patient, who was under the protection of her brother, the Rev. Mr. M., took private lodgings in an airy part of the town, with the intention of submitting to any plan of treatment which might be suggested or practised for her benefit. The neck of the uterus was greatly shortened by the action of development of the tumour upon it. Its orifice was dilated to the extent of about





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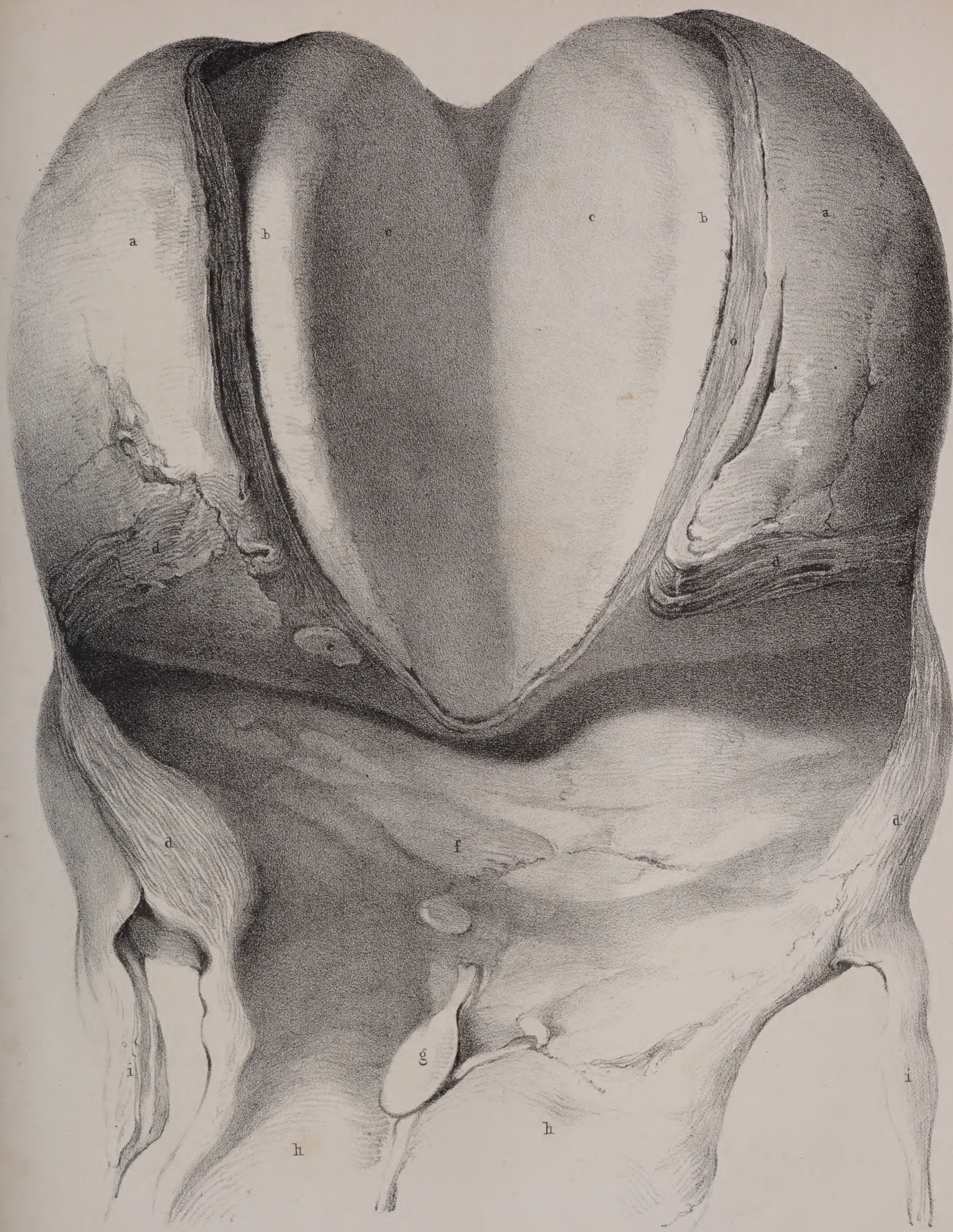


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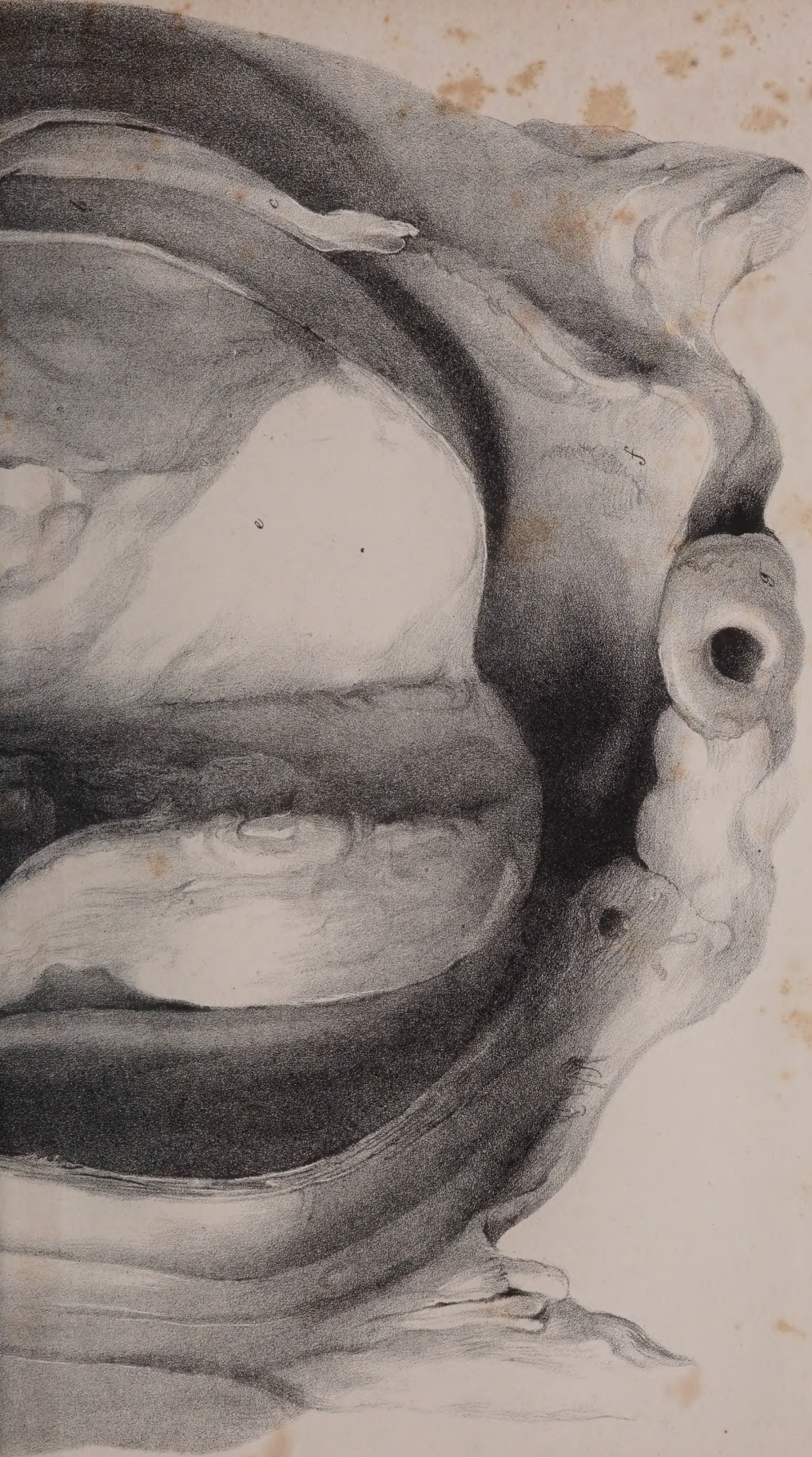
three quarters of an inch ; and the tumour being so large as to block pretty firmly the entire cavity of the pelvis, the inferior part of the mass was very accessible to examination. On attempting to carry his finger round it, or to any considerable distance between it and the walling of the uterus in any direction, the author soon discovered that it was not so loosely connected to the uterine parietes as in the other case referred to, viz., that of the pathological subject at the University. Pl. xv. fig. 2. But although differing in degree and extent of attachment of their exterior surfaces to those of their respective chambers, it nevertheless seemed to him probable, that in the case under his immediate charge, he might eventually, by perseverance and a cautious repetition of attempts, aided by mechanical expedients, which he need not now describe, be able to separate the tumour from its lodgement in its parent bed, so as to enable him finally to accomplish its extirpation. He, however, soon had the mortification to find that the adhesion between the one and the other was exceedingly strong. After having made three unsuccessful attempts to accomplish his object, he was obliged to desist from a further repetition of them in consequence of the accession of pretty severe symptoms, viz., those of intense pain, heat, and swelling of the neck and orifice of the uterus ; of that part of it, in point of fact, which had especially been made the subject of the treatment just described, accompanied by a no small amount of excitement of the heart and arteries. By the application however of six or eight leeches to the os externum, and the subsequent use of fomentations for some hours afterwards, the phlogosis thus produced gradually subsided ; so that in about a week after this crisis of her case, the patient seemed to consider she was in a state of rapidly-advancing convalescence. She ceased to be subject to hæmorrhages, of any considerable amount, after the second attempt made by the author to effect the separation of the tumour from its investing tissue, the muco-membranous lining of the uterus.

The most probable explanation of this case, as it presents itself to the author's mind, would seem to be, that the profuse hæmorrhages which constituted so essential a part of it, had probably for their source the membrano-vascular tissue intermediate and mutually communicating between the tumour and the neck of the uterus ; and that this tissue, in consequence of being subjected to the results of inflammation and suppuration, became the medium of cohesion and consolidation of the two surfaces, and therefore eventually the means of hermetically plugging up the arteries or ramules of arteries which had previously furnished the sanguineous discharges. After this perfect arrest of her hæmorrhage, Mrs. L. recovered her former state of health with unusual rapidity. She was visited pretty frequently during the first fortnight of the author's professional attendance, which commenced about the middle of November 1831, and then occasionally till June 1832, when she left London to go on a tour through Germany Switzerland, and Italy. She is still a traveller on the Continent, and has ever since her departure from London enjoyed an excellent state of health.

In Pl. xvii. the reader is presented with another specimen of a sarcomatous tumour within the very substance of the parenchymatous tissue of the womb. The small letters a, a, are intended to represent the parietes of the uterus; b, b, and c, c, different parts of the tumour cut into perpendicularly to a great depth, so as to expose its volume, and also in a great measure its texture. Its tissue may be said to have been truly of a SARCOMATOUS character, but not properly fibrous nor membranous. Its section on the other hand presented an uniform smoothness as well as great firmness upon the application of pressure. It was sound, that is, free from inflammatory or ulcerative disease at every part. The surfaces marked d, d, d, d, of either side are intended to represent two horizontal incisions made through the parietes of the uterus inferiorly to the tumour, with a view to lay open the mucous surface of the lower part of the body of that organ, as also a superior part of its cervix. The small g is a specimen of a pediculated tumour of an inconsiderable size, taking its origin from the interior of and about the middle of the neck of the uterus. The small h, h, are superior portions of the vagina laid open. The small capital o, indicates a part of the great section through the whole of the anterior parietes of the uterus, in order to lay open the tumour. The small i, i, are portions of the round ligament of either side. The subject of this tumour was a widow lady of about sixty years of age. She had been married only for a short time, and to a gentleman of very infirm health and many years older than herself. For some years before her death she had been the subject of occasional uterine hæmorrhages, for which she had taken the opinion of several eminent practitioners. On some of these occasions, it had been ascertained that her marriage had never been duly consummated; and this fact was sufficiently confirmed after her death. The blood which escaped during the hæmorrhages adverted to was of a bright arterial hue, in quantities varying between six ounces and about a pint and a half. It came away in a full stream, and generally, as it were accidentally, when she happened to be seated on her night-chair, and not unfrequently after an excessive indulgence in the use of wine or spirits. Her general health was good and her appetite excellent till within about ten weeks before her death, and she indulged freely in the use of rich and highly-seasoned animal foods. Examination per vaginam during life led to no inference as to the cause of her hæmorrhages, inasmuch as it led to no discovery beyond the simple fact, which could indeed be equally well ascertained by abdominal examination, viz., that she was the subject of a large insensible tumour, which occupied the hypogastric region. The vaginal part of the uterus had always been found healthy, but situated so high up within the pelvis as to be difficultly reached. On examination of the pelvic viscera after death, the enlarged uterus represented in Pl. xvii. with its contents came into view. The tumour was entirely imbedded, as already stated, within layers of its parenchymatous tissue. The mucous surface of its cavity was perfectly healthy in its structure, and not only presenting no traces of solution of continuity of any kind, but no appearance even







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W. E. A. and J. H. H.



of any extraordinary vascularity. Whence, then, had the blood of former hæmorrhages issued in such abundant quantities? It must of course have been the result of profuse transudation from the ultimate ramules of the arteries supplying the interior of the uterus with blood, in the same way as hæmorrhages from the intestines are frequently the effect of transudation from the arteries of their mucous membrane. The immediate cause of the death of the subject of this case was not uterine hæmorrhage, nor any other result of her uterine disease, but a fatal cachexia from what appeared to have been a total suspension of circulation in the hepatic system. The patient had been addicted to intemperate habits for several years before her death. The inspection of the body after death was performed by Mr. Earle and the late Mr. Bennett, demonstrator of anatomy at the University.

It is well known that the sarcomatous tumour, of which Mrs. L.'s case was probably an example, is not essentially a malignant disease, and that it proves fatal, which it occasionally does, only in consequence of its mechanical encroachments on the bladder and other pelvic viscera, and its tendency by its bulk thus to stimulate and to oppress, or otherwise to interfere with the due circulation of the uterine system. It would seem also equally the fact, that the fleshy tumour represented by that of the case last described, is not to be considered as one essentially of a malignant nature; for although of considerable volume, the tumour in that case was perfectly devoid of sensibility to pain, nor was it the subject of any kind of malignant action.

How far the same description may apply to the greater number of fleshy tumours, not variegated by membranous interlacements, the author cannot positively say, but that they are not all exempt from the liability of becoming malignant at an advanced period of their progress there can be no doubt, whilst probably there may have existed few varieties of malignancy or of morbid changes of tissue in which tumours of this class have not been known to terminate. In a case of which Pl. XVIII. represents very clearly the pathological facts on dissection, there were found imbedded within the substance of a large sarcoma of this kind, several other tumours of a smaller size and of a carcinomatoid tissue. See the small letter d. From the depth of another subordinate tumour, within the shadow on the left of d, there was a constant stillicidium of a sanious brownish fluid, similar to that from a cancerous ulcer, and not easily, if possibly, distinguishable from it. Mr. Abernethy, to whom the preparation was taken for his opinion, pronounced positively that it was a specimen of true carcinomatous disease. The subject of the case was an unmarried woman of about twenty-eight years of age when she died. The abdominal enlargement had commenced, as was believed, about eight years before her death. During the earlier years of her malady she sustained little or no inconvenience from it; with the exception of occasional imputations on her character, naturally enough suggested by her great size; and on that account she had been obliged to quit her situation as a servant on more than one occasion. It was not till about fifteen months before her death that

her general health began materially to suffer; and even then her greatest inconvenience appeared to depend on the pressure of the tumour on the bladder and other tissues attached to the brim of the pelvis. But within about four months subsequently to that period, she pretty suddenly lost her appetite and strength, and she became rapidly cachectic and emaciated. She had been the subject of a troublesome leucorrhea for some years, probably from the commencement of her complaint; but it had been attended with no great fœtor, nor with any distressing irritation of the surfaces about the os externum, until within a very brief period of her death. For the substance of this sketch of an important case, and for the preparation so well represented by Mr. W. Fairland in Pl. xvii., the author is indebted to his friend Mr. Owen, late of Chancery-lane and now of Pembrokeshire. On the liability of sarcomatous tumours to become complicated with changes of tissues deemed cancerous of the same parts, see Levret's *Essay ou Uterine and Vaginal Polypi*; *Mémoires de l'Acad. Roy. de Chirurg.* § vi. p. 571. edit. 1778.

Tumours of this class have been known to degenerate into melanosis; of which fact an interesting example has been reported to the author as having lately occurred in the practice of the Marylebone Infirmary.

It is moreover not uncommon for similar tumours to be converted into osseous and petrous bodies. Fig. 1. in Pl. xix. B, is a representation of an osseo-cretaceous substance found imbedded within a large uterine sarcoma. Analogous to the case here referred to, and of which the pathological specimen may be seen in the Museum of Anatomy in the University, was probably a case recorded by Louis in his valuable *Essay on Calculous Concretions of the Uterus*, *Mém. de l'Acad. Roy. de Chirurgie*, tom. ii. obs. 13. p. 141. edit. 4to. 1769,

The patient had been the subject, for nearly two years before her death, of severe pains in the region of the left kidney, accompanied by the usual symptoms incident to the presence of stone in the kidney. Accordingly, on inspection of the body, the affected kidney was found to contain a calculus of a triangular figure, and of about half an ounce in weight, together with some sabulous matter and a quantity of a yellowish purulent fluid. The womb was unusually large, and of an extraordinary figure. Its size was that of a man's head. Its substance resembled hard and dry suet. In the centre of this mass was found deposited a hard, compact, and irregularly-formed concretion of osseous structure, which weighed five ounces and a half. The subject of the case had lived with her husband thirty years without having ever conceived, although she had always menstruated regularly up to the usual period of cessation of the catamenial function. She had been greatly tormented by violent abdominal pains, of which the cause now became sufficiently evident. The uterus itself was in a state of scirrhusity.

It seems to have been an opinion entertained by the late Dr. Baillie, that these osseous masses found in the uterus are generally the result of conversion of hard fleshy tumours into bone. "This," he observes, "was the case in the only

instance which I have known of the disease ; for a great part of the tubercle still remained unchanged ; and I think it very probable that such a change most frequently happens where these bony tumours are found.”—Baillie’s Works, by Wardrop, vol. ii. chap. 19, p. 331.

There are, moreover, recorded cases of non-pediculated tumours, which probably had originally occupied the cavity of the uterus, but which afterwards had become adherent to its parietes, in consequence probably of having undergone the process of conversion into bone. Of this fact the two views of an uterine tumour, fig. 4 and 5 in our plate, XIX. B, may be referred to, as furnishing a striking example. The case was one of an old woman of nearly eighty, who had died suddenly, and whose body was therefore ordered by the magistrates of Hamburgh to be examined for the purposes of an inquest. After reporting on the entire absence of marks of violence, and on certain morbid conditions of the liver, gall-bladder, spleen, and mesenteric glands, the state of the uterus was described as follows: “The intestines being then removed, what was our astonishment when the uterus came into view? It was of the size of that of a woman in her fifth month of gestation. An incision having been made through its parietes, there appeared an osseous concrete substance strongly adhering to its sides and orifice, which immediately upon being removed weighed twenty-two ounces, apothecaries weight. Upon being sawn through in the direction of its length, it was found to consist of a *MOLA* invested by an incrustation of bone. Fig 4 in the plate referred to exhibits a portion of the tumour, after about a third of it had been sawn off in order to obtain a view of its interior. The darker part seen within the line of section, is said to have been of the usual texture of mola. The case was made the text of an extended dissertation on uterine mola, by Rutger Hankoph, and published by Haller in his *Disput. Morb.* vol. iv. p. 713. It would seem fair to presume, that the material of the osseous incrustation of the above tumour must have been furnished rather by the arteries of the mucous lining of the uterus, than by those of its parenchymatous tissue. The patient, we are informed, had been the subject for many years of severe pains of the abdomen, and of hysterical symptoms, for which she had taken many vaunted remedies, recommended to her by empirics and old women.

To the above case, a very similar one is recorded by Malpighi, *Oper. Posthum. Hist. Vitæ* p. m. 50, with the difference that the latter writer considered the central portion of the tumour reported by him, as probably the remains of retained secundines. “*Exterius omnino ossea erat, et circularium fibrarum contextum exhibebat, ambientis forte olim secundinæ portiones, interius autem observabantur inequales concretæ osseæ portiones cum interpositis particulis quasi gypseis et sanguineis carneisque concretis et resiccatis pustulis.*” Analogous in some respects to this case of Malpighi, and in others not a little interesting, was that of an ossification of the uterus, of which the history was communicated by the late Dr. Mackie, of Lewisham, to the Editors of the *Lond. Medical and Physical Journal*, vol. iii. p. 422. The subject of the case had

died in her seventy-second year. She had suffered much from disease from the period of her marriage, which she contracted in her thirty-second year. Soon after that event she was supposed to become pregnant; but symptoms of dropsy also appearing she was attended by Drs. Fothergill and Watson, and also by a gentleman practising midwifery; who all agreed that it was a case of pregnancy accompanied by anasarca, although her menses had suffered no interruption. Diuretic medicines were prescribed accordingly. These produced a copious discharge of urine; and the dropsical appearances subsided: but the size of the abdomen continued to increase, accompanied by more than usual uneasiness, till the expected time of delivery. This anxious period at length passed over, and to the great alarm of the patient and her family no labour nor delivery took place. From this time she had delicate and irregular health; her bulk continued undiminished; she had obstinate constipations; she was frequently attacked by hot, burning, excruciating pains in her abdomen, which could only be relieved by opium: she became subject to violent paroxysms of gout, which confined her to her bed for two or three months in the year, and left her extremities much distorted: she was also for a long time a constant sufferer from the increasing size and weight of her abdomen, and particularly on turning in bed: when the bulk fell to the lower side, which it often did, as she expressed herself, in a lump, it never failed to give her the most distressing pain and uneasiness. A paralytic stroke, which deprived her of the use of speech and of the power of one side, preceded her death a few days. EXAMINATION AFTER DEATH.—“ On uncovering the abdomen, it appeared unusually large, hard, and incompressible, and inclining to the left side; the bulk rather exceeding that of a pregnant woman at her full time. In cutting along the linea alba, after dividing the skin, I found the muscles so much ossified from about three inches above the umbilicus, that I could not separate them without a very strong knife. The ossification extended as much below the navel, and about three or four inches on each side, having some resemblance to the top of a child's skull. The inside had a smooth shining polish, apparently from its friction on the uterus, between which and these ossified muscles nothing intervened, the peritoneum being entirely obliterated. On laying aside the separated integuments, the uterus appeared in full view, filling almost the whole cavity of the abdomen, and even pressing against the diaphragm. Its appearance somewhat resembled a very pellucid bladder distended with hog's lard, and pressed a little flat at the fundus. It was sometime before I observed the intestines, which were pushed into a space not exceeding a cube of two inches, in the lower part of the left side of the pelvis, where they seemed crowded, shrunk, and empty. The omentum was obliterated. Near the intestines lay about twenty hydatids of different sizes, of a beautifully polished white colour, and several of them as large as pullet's eggs, but containing no fluid. On attempting to cut into the uterus, the knife made no impression till great force was used, the ossification was so complete. The divided sides appeared of a chalky brittle dead white; no vestige

of nerves nor of blood-vessels remaining. The fundus was about a quarter of an inch thick, and perfect bone: the body of the uterus was thicker, and not unlike the thickest parts of the occiput. The ossification ended at the cervix; which was of a hardish sebaceous texture, and four or five inches thick. On cutting through this part, about a quart of strongly foetid pus was discharged; and on making a complete division of the uterus, which was large enough to contain the body of a full-grown foetus, I found a large, detached, unformed, spongy mass, composed of soft and hard parts; the former resembling moist decayed wood, and easily compressible into a small bulk; the latter somewhat like the ends of the long bones, but without any specific part ascertainable; although the whole conveyed to my mind the possibility of its once having been a foetus. The ovaria, Fallopian tubes, and ligamenta rotunda, differed little from their natural size and colour. The liver was small, hard, and of a dark-red colour, and pushed backwards. The gall-bladder appeared as if squeezed by the uterus, part of which was stained with bile. The kidneys were larger than usual, and covered with watery blisters. The vesica urinaria was small and empty. The stomach, spleen, and pancreas, appeared shrunk, and the diaphragm was pushed upwards. The uterus, including its contents, when taken out of the body, weighed eighteen pounds and three quarters avoirdupois."

Between the facts of the above case and those of the following almost equally interesting history, the reader will no doubt recognise many points of close analogy.

"In the spring of 1808, I was called to attend the dissection of an extraordinary case of diseased uterus in Miss M., a young woman aged about twenty. She was below the middle stature, rather slender, but had generally enjoyed a tolerable state of health. The history of her singular case is as follows: About eighteen months before her decease, she experienced a sudden cessation of her menses, and acknowledged herself guilty of an act of illicit connexion with the other sex; from which she supposed that conception had taken place; and accordingly she had made an avowal to that effect before a justice of the peace. From the first ceasing of the menses there was a gradual and uniform enlargement of the breasts, and the first eight months were marked by most of the circumstances usual in an ordinary case of gestation. At the end of nine months she supposed herself ill, and called in a physician; who on examination discovered no symptoms of labour, and left her. From this time, the enlargement of the abdomen was more rapid, and the breasts became hard and inelastic. At the end of nine months more she expired, apparently from the great distention of the abdomen and extreme emaciation. Two days after death, the body was inspected in the presence of a large number of medical gentlemen. The superficial veins of the abdomen had become varicose to a considerable extent. On laying open the abdominal cavity, the uterus was found occupying nearly the whole of it, with its surface irregular, and adhering in many points to the peritoneum. When dissected out, it weighed thirty-two pounds and a half. On

examining its internal structure, there were found two cavities; one the natural cavity of the uterus, whose surface was tolerably smooth and regular, containing a dark grumous fluid to the amount of number of pounds; and the other, an accessional one, containing serum and pus. These cavities having been evacuated, the uterus weighed twenty-one pounds. The os tinæ was found closed from cohesion of its parietes. The ovaria were enveloped in the diseased mass. On cutting into the substance of the uterus, it exhibited generally a whitish colour, a very firm unyielding texture intersected by membranous septa. Some points were cartilaginous, and others approaching to the state of bone. The intestines were crowded back on the spine, where some of their mesenteric glands were seen enlarged to the size of grapes, and in a state of induration. The other abdominal viscera were found in a healthy state. It may be regarded as a remarkable fact, that during the whole course of this disease, the appetite was unusually voracious, constantly craving animal food; which accordingly was taken and perfectly digested. The bowels in the meantime were generally firm and regular." Thomas Sewall, M. D. Extracted from the *New England Journal*, and inserted in the *Lond. Medic. and Physical Journal*, vol. xxx. p. 102.

There are few recorded examples of hair having been found within the cavity of the uterus. The following may, however, be quoted as an instance of the fact. A woman, aged twenty-four years, after having been delivered of a sound child, was the subject of an adhesion of a parasitic body to the mucous membrane of the uterus. The removal of this substance, which was not accomplished without some difficulty, was followed by a considerable discharge of blood. It consisted of a mass of both bones and hair, somewhat larger than a walnut. The reporter of the case seems to have been of opinion that it had come from one of the ovaries with the true conception. Lowthorp's *Abridgment of the Philosophical Transactions*, vol. iii. p. 226.

OF CONVERSIONS OF SARCOMATOUS TUMOURS OF THE UTERUS INTO CALCAREOUS BODIES OF THE SAME ORGAN.—This important disease of the uterus is little more than a variety of the same morbid action by which that organ itself and its adventitious tissues have been transformed, as we have already seen, into bone. These calcareous bodies, for such we may presume they mostly are, have presented considerable differences of size, form, colour, texture, and character of surface, in different subjects. In the greater number of cases, the surfaces of uterine calculi have been observed to be rough and unequal. This circumstance, in addition to the fact of the mere presence of an adventitious body within the cavity of the uterus, would seem sufficiently to account for the severe pains to which the sufferers from uterine concretions of this class are almost always liable. See Louis' essay on this subject as published in the second volume of the *Memoirs of the Royal Academy of Surgery*, obs. i. p. 131, 4to edit. When the calculus on the other hand is smooth, small, and not within the cavity of the uterus, but imbedded within the substance of its

Fig. 1.

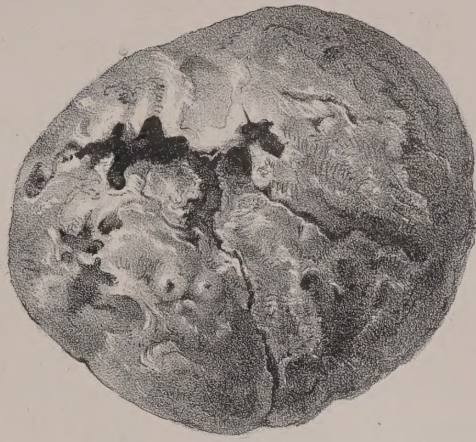


Fig. 3.

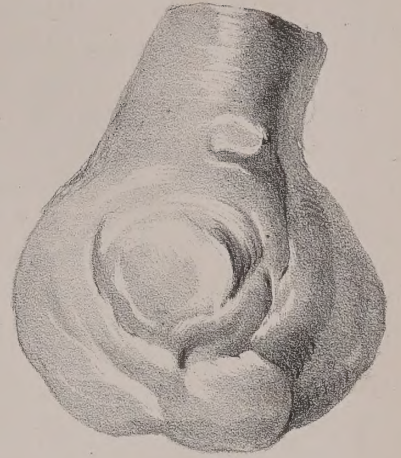


Fig. 2.

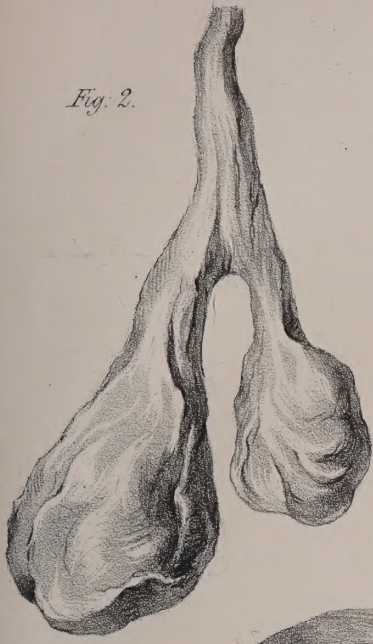


Fig. 4.



Fig. 5.





parenchymatous tissue, it may coexist with a perfectly good state of the patient's health in other respects. Of this fact, there is a preparation in the Museum of Anatomy of the University, which furnishes a most satisfactory illustration. The calculus is a smooth, yellow, oblong body, of the size and nearly of the shape of a kidney bean, and was discovered by accident in the subject of the case during a post-mortem examination consequent upon a disease which could neither have been the cause nor an effect of it.

The following history is entitled by its reporter, "A case of uterine calculus of considerable volume which produced no accidents." The Baroness . . . observed in the month of March, 1749, that she voided urine of a bloody colour. Some months subsequently, she experienced pains in her kidneys, accompanied by fever and severe colics in the hypogastrium. These symptoms became more exasperated in despite of the best professional services of Dr. Vollter, of Munich, and of the illustrious Van Swieten, whose counsels had in no respect differed from those of the physicians of the court of Dresden, on whom had devolved the duty of her previous treatment. It was the unanimous opinion of all those gentlemen that the patient was become the subject of ulceration of her kidneys, in consequence of their being charged with calculi. The fever continued without remission; the pains became insupportable; and the Baroness yielded to her destiny in November, 1750, at the age of seventy-five. On inspection of the body, the left kidney was found considerably enlarged in volume. It in fact contained a triangular calculus weighing an ounce and a half, together with some sabulous matter, and a quantity of purulent fluid of a bad odour.

The uterus was of immense size, and presented an extraordinary appearance as to its figure. It was as large as a man's head; and its substance had been converted into an indurated cetaceous mass, from which was extracted a petroosseous concretion weighing five ounces and a half. Although the death in this case, in the opinion of the eminent men who professionally attended upon it, had been the effect of the disease of the kidney, it may nevertheless be well presumed that the uterine malady had contributed no little influence in the production of the fever and colics which had so importantly enhanced the miseries of the patient. E. M. Rinaldi, Collegiat Physician of the University of Turin, in a post-mortem examination of the body of a female who had never complained of symptoms indicative of any uterine disease, found however within the cavity of the womb a calculus of about the size of a hazel nut. On opening the body of a lady, M. Foubert encountered a calculus of the size of a walnut, which had therefore the effect of completely filling its cavity, although the patient had never suffered any inconvenience from its presence. The only thing remarkable in her case was that she had never been blessed with a family. *Mem. sur les Concretions calculeuses de la Matrice, pour M. Louis. Mem. de l'Acad. Roy. de Chirurg. tom. ii. pp. 140 et 141.*

The local irritation incident to the presence of calculi within the cavity of the uterus is such as most frequently to produce much constitutional disturbance. See cases quoted by Donatus, *Hist. Med. Mirab. lib. iv.* and by Schenck, *Obs. lib. iv. De Variis Uteri Affectibus*. M. Louis quotes a case from the *Leipsic Transactions*, communicated by Morus, a physician of Sienné, of a woman who had died of a pleurisy, in whose uterus was found thirty calculi, of which the smallest was of the size of an almond. They were imbedded in different layers of the proper tissue of the uterus. The patient had been long the subject of severe pains in the region of the pelvis. *Acta Erudit. Lips. 1712.*

Ulcerations produced by the presence and pressure of calculi of the uterus have been known to make great progress towards effecting a route for their expulsion or escape. In the essay already referred to, the writer presents his readers at least with two cases in illustration of this point. "A lady had for a long time been the subject of a distressing sense of weight in the region of the uterus, and for three years suffered pungent pains of that organ, accompanied by a leucorrhœal discharge. Six weeks before her death an adventitious body, which presented at the vagina, was withdrawn from that passage with a pair of dressing forceps. Its consistence was that of plaster. On the following day a similar body, but of smaller size, was extracted in the same manner. During the latter months of her life, her fœces and the enemata which had been administered to her, came away by the vagina. M. Verdier, who performed the post-mortem examination, found a gangrenous ulcer common to the vagina, to the rectum, and to the orifice of the uterus. Of the latter organ the fundus was of sound texture."

"Salus," observes the same writer, "quotes a very similar case. A nun, about fifty years of age, experienced severe pains of the uterus for many months. Her pains, after having resisted the action of all the remedies which had been prescribed to her, at length happily ceased in consequence of the escape of a calculus of the size of a duck's egg." Added to the ordinary pains incident to the irritation inseparable from the presence of angular and rough-surfaced calculi in the cavity or within the substance of the uterus, they are also liable, no doubt, to violent paroxysms of bearing-down expellent pains of the affected organ. Ambrose Paré, *Traité de la Generation*, liv. xxiv. cap. 25. "In one of these paroxysms," observes a great authority, "more violent than any that had preceded it, she felt presenting at the orifice of the uterus, a substance remarkable for its inequality of surface. She fell into a fainting fit, and in that state a female attendant, by the introduction of the hand, brought from her person a calculus of the size of a spindle ball. The pains immediately ceased upon the removal of the adventitious body, and the subject of the observation subsequently enjoyed perfect health." *Hippocrat. lib. v. De Morb. Vulg. sect. 7.*

Some doubt has indeed been entertained as to the proper meaning and value of this case recorded by the father of medicine, *Art. Erudit. Curios. Nat. cent. i.*

But the fact of the possibility of calculous concretions of the uterus is attested by so many other authentic cases of the same disease, that we may easily dispense with the testimony in its favour of any single writer.

A principal cause of the doubts which have been entertained as to the fact and fidelity of some recorded cases of uterine calculi, is the community of locality, within the pelvis, of both the uterus and the bladder; the latter being an organ especially subject to the formation and retention of calculous concretions. It has moreover very frequently happened that uterine calculi have been productive of very severe VESICAL symptoms. "A widow woman, aged seventy, died at Lille in 1686. She had been afflicted during a period of from fifteen to seventeen of the latter years of her life with difficult micturition, accompanied by intolerable pains of the loins, of the parts about the pubes, and of the perineum. It was proposed to have the cause of these several symptoms ascertained by a post-mortem examination of the states of the kidneys and bladder; in neither of which, however, was found any appearance of sabulous matter. But whilst these investigations were being made, the operator recognised by accident a scirrhus condition of the uterus; where he also encountered a large calculus included within its cavity, which indeed was considerably developed by the presence of the foreign body. This stone, of which the external layer consisted of friable matter, and was easily detachable from its more solid, but very porous, interior, was exceedingly large for its actual weight, which however amounted to four ounces." *Blancard. Anat. Pract. Ration. obs. 74.*

There is recorded, in an early volume of the German Ephemerides, the case of a young lady, of five years of age, who was considered to have died of retention of urine. It was discovered, by a post-mortem examination, that the urinary bladder was quite healthy; but that the uterus contained a calculus of a lightish colour, and of a size something larger than that of a pigeon's egg. *Ephem. Germanic. decad. i. an. 4 et 5. p. 55. Lips. 1673.* The death attributed to retention of urine in the case just quoted, was, in common with such retention, the effect of extreme and long-continued irritation of the nerves of the uterus, so easily, and as may be supposed, almost unavoidably, propagated to those of the bladder.

Some of the cases both of ossification and petrification of the uterus, which we find recorded, are represented to have been accompanied by profuse discharges of blood, as well as of leucorrhœal and other morbid fluids from the genitals. *Louis* quotes a case of ossification of the womb which, after the cessation of the menses, had been complicated with hæmorrhoids. The patient had been the subject of tormenting pains for about twenty years. She at length died of consumption. On opening the body the uterus was found to have acquired the enormous size of a skittle-bowl. Its parietes, with the exception of its peritoneal tunic, were entirely ossified, so as to require to be broken by a hammer. Its interior was charged with purulent matter, having no offensive smell, and resembling thick milk. The same writer refers also to a specimen of a petrified uterus in the

possession of M. Verdier, of which the parietes were six lines in thickness. From its internal surface there were numerous petrous projections towards its centre, bearing a striking resemblance to stalactites. Its cavity contained a thick lymph without odour. These appearances, as well as the entire volume of the uterus before it was dissected, are well represented in two engravings, Pl. VII. and VIII., which accompany the writer's valuable essay. *Mém. de l'Acad. de Chirurg.* vol. ii. p. 143. See also the cases sketched at p. 145, and well illustrated by three engravings, fig. 1, 2, 3, of Pl. IX. in the same volume.

In respect to the TREATMENT of the rare disease under consideration, little can be suggested which could be deemed either very useful or satisfactory. Cases of this description might however furnish very important subjects of diagnosis; in so far as an osseous or petrous body occupying the cavity of the uterus might sometimes be distinguished from an actual conversion of the proper tissue of that organ itself, into either of these substances. In the former case it is obvious that the concrete mass might be only so slightly connected or even not connected at all with the uterine cavity surrounding it, as to indicate an attempt to effect its removal by mechanical means. In the case of the young lady, referred to in p. 667, the patient's torments might possibly have been very materially abridged in duration by services of this kind. A case of uterine calculus, under the circumstances here supposed, was happily disposed of by mechanical management, with no other instrument than the fingers and thumb; although it had for a long time previously been attended by symptoms of extreme severity. *Journal de Méd. Chirurgie, etc.* tom. xli. p. 32.

Of the success which might attend any considerable operations of surgery for the extraction of uterine calculi, on the principle of lithotomy operations, it is impossible to form a correct opinion, by reason of our total want of experience on the subject. The author is only aware of one example of an operation of that kind having ever been performed. Of that case, the brief but interesting history was published in the *Transactions of the Royal Society*, vol. iii. p. 150. Its subject was a poor woman who resided near Trant in Somersetshire. The patient had endured the most intolerable pains during a period of eight years. "I have seen the stone," observed Dr. Beal, who communicated the case to the Society, "and weighed it in gold scales." Its weight was something short of four ounces. The operation proved in every respect successful.

In cases of prolapsion of the uterus, complicated or possibly produced by the presence of a calculus within its cavity, it might be well presumed that the modern operation of LITHOTRIPSY might furnish very ample means for effecting the removal of the offending body; nor, indeed, does the author see any good reason to doubt the value of the new operation for the relief of any cases of uterine calculi whatever, not confined within cysts nor imbedded within layers of the proper substance of that organ itself.

For further illustration of sarcomatous and other varieties of non-pediculated tumours of the uterus, the reader may consult the following essays and cases.

Dissert. De Calculo Uteri *Æt. Tetrabibl. serm. iv. cap. 98.* Historia et Cura. Sarcomat. Monstros. etc. Christ. Vater Auctore. Vittenberg. 1693. A cetaceo-carneous tumour of the uterus, weighing three pounds and a half, by J. Tack. *Ephem. Germanic dec. iii. an. 7, 8. obs. 152. p. 274.* The excision of a fleshy tumour from an inverted uterus, followed by mortification and death in a few days afterwards, by Theod. Zwinger. *Ephem. Germ. dec. ii. obs. 180. an. i. p. 413.* Joh. Frid. Crellii, *Programma de tumore fundo uteri externe adhærentè.* Halleri *Disputat. Chirurg. tom. iii. p. 634. Edit. Venet. 1755.* De ossibus per uterum excretis. Auctor. Georg. Abrah. Merklin. *Ephem. Germ. dec. 1. obs. 49. p. 77. Lipsiæ 1677.* A case of uterine calculus which was extracted after death by M. Vicq. D. Azyr. *Hist. de la Société Roy. de Méd. 17p. 97. 218.* An account of a large bony substance found in the womb, by Dr. Edward Hody. *Martin's Abridgment of the Transact. of the Roy. Society, vol. ix. p. 191.* Many valuable cases not referred to in this article by M. Louis in his excellent essay on calculous concretions of the uterus, *Mém. de l'Acad. Roy. de Chirurg. tom. ii. p. 130.*

OF THE SUBSTANCES CALLED MOLÆ OF THE UTERUS. The term molæ or mole has been made use of by authors to designate more than one variety of anomalous flesh-like substances found within, thrown out, or removed from, the uterine cavity. It is here intended to confine its application to such irregularly shaped masses as, it is supposed, may be formed within the uterus independently of any disease or diseases of the conceptive function. It is generally the result, it may be presumed, of a morbid effusion of blood into the uterine cavity; where, in consequence of its being there retained, it speedily becomes a mass of semi-organized fibrine; the coagulation and partial organization being effects no doubt of deficient space for the blood so effused, whilst yet fluid, to escape by the natural outlet of the organ, through its cervix and orifice, into the vagina. Thus retained and eventually imperfectly organized, the mass of fibrine becomes more and more compressed, its proper serum, in the mean time, easily escaping by reason of its natural liquidity. After a time, the uterus accommodates itself to its charge, by a gradual development of its parietes; and thus becomes competent, after the lapse of an uncertain period, to the reception and retention of a second effusion of fresh blood from the arteries. Such effusions may be the results of any cause or causes which could be supposed competent to produce rupture, or excessive dilatation of the orifices of the delicate arteries which are distributed throughout the mucous membrane of the uterus. Hence, consequently, in many cases, the formation of molæ in virgin uteri, as results of excessive determinations of blood into them at the catamenial periods, and more especially in cases of women, whether single or married, subject to menorrhagia. Examples of irregularly oviform masses of this description, consisting exclusively of blood, either in the form of a roundish coagulum invested by a pellucid coating of lymph, or else consisting of an inferior proportion of coagulated blood within, and of a stronger fibrinous

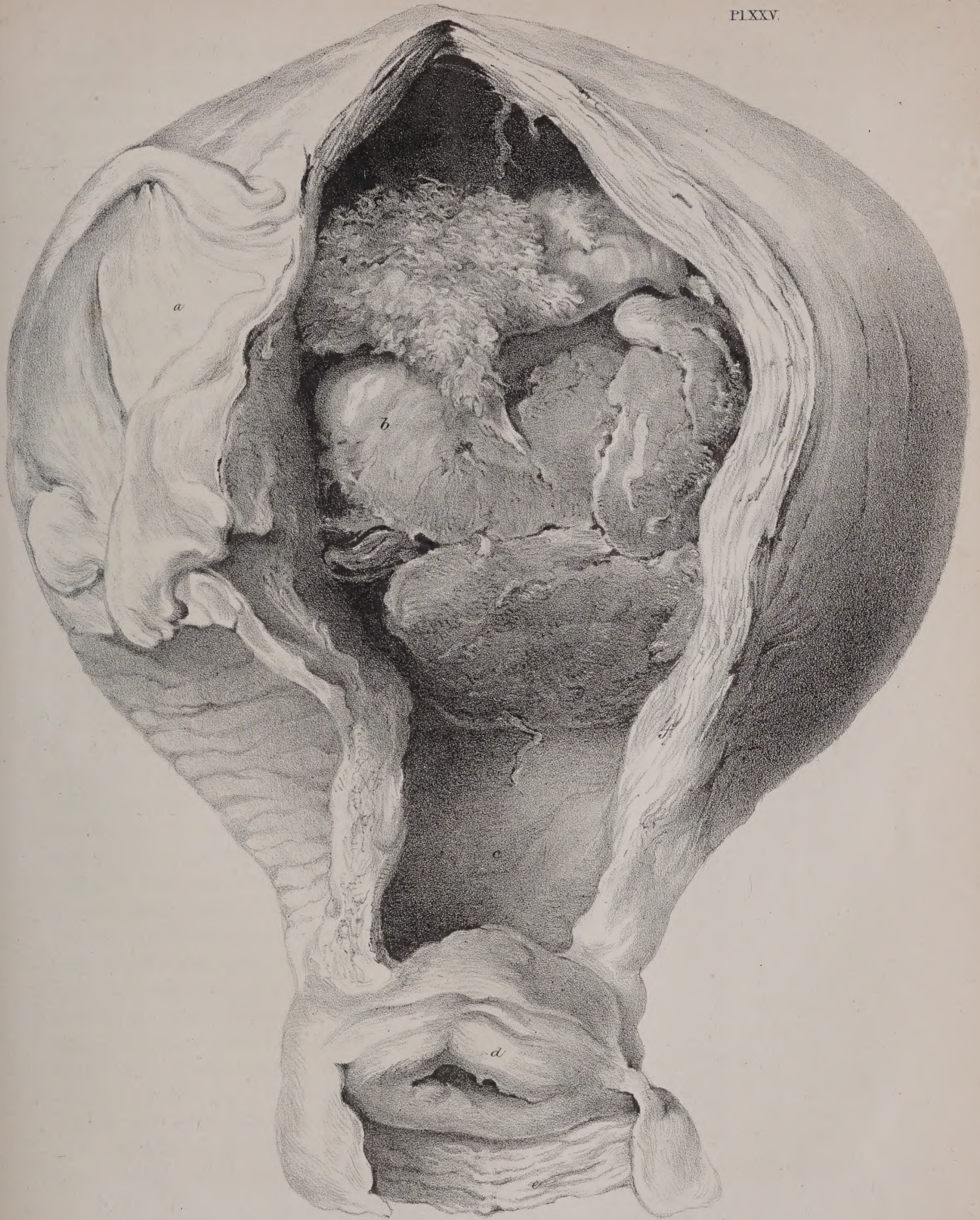
coating externally, but yet throughout their entire substance perfectly devoid of any appearance of a conception, are matters of almost daily experience with gentlemen extensively consulted in female diseases.

The masses of this kind, it should be observed, formed within virgin uteri are usually of smallish size, such for example as that of a pigeon's or a pullet's egg, and therefore most frequently the produce of a single effusion of blood into the uterine cavity. To this rule there are some few exceptions. The uterus, containing the immense mola represented in Pl. xxv., was taken from the uterus of a single woman, who, there were very good reasons for believing, had never been exposed to the influence of impregnation. It must nevertheless be acknowledged, that the most predisposed to these formations, are married women, because liable to miscarriages; sufferers from the consequences of difficult and artificial labours; the mothers of numerous progenies; and persons already, or about to become, the subjects of structural diseases of the uterus. Uterine molæ, essentially the result of effusion of pure blood into the uterine cavity, are sometimes complicated with blighted ova, masses of hydatids, and other products of a true conception. Their accompanying symptoms are also principally those of actual pregnancy, but generally complicated with those of diseased conditions of the uterus itself or of its contents. During the earlier period of these formations, milk is not unfrequently secreted in the breasts; but in the progress of the disease, these organs become less tumid, and therefore less and less indicative of the presence within the uterus of a true conception. The presence of adventitious masses in the womb are often attended by severe uterine pains. Their period of lodgment within that organ is very uncertain, varying between six weeks and a twelvemonth: whereas, in some cases, in consequence of contracting adhesions with the parietes of the uterus, they remain attached to it, to the end of the patient's life. Simple molæ are chiefly dangerous to their subjects from the profuse hæmorrhages which are apt to accompany their expulsion, and the more complicated ones on account of their accompanying structural diseases of the uterus, and of other circumstances productive of dangerous complications.

The above statements may be sufficiently illustrated by the citation only of a very few cases.

A married woman, sixty years of age, was delivered of a muscular or rather of a tendinous-like substance, as big as a large calf's heart, and exactly resembling the auricles and apex of the same organ. It had presented at different times for seven years last past, accompanied by vast floodings and excruciating pains. The loss of blood was excessive, but by the help of incrassating remedies and acids, she is happily recovered and hearty. Smellie's Midwifery, vol. ii. coll. 8. No. 2. case 2.

A case of mola, accompanied by most of the symptoms of gestation:—The patient believed herself pregnant. The mass was expelled in the seventh month. It was of a soft consistency excepting at its edges, where it had adhered to the



uterus. It weighed seven pounds. Corvisart's *Journal de Méd.* etc. vol. xxv. p. 415. A case of mola complicated with a state of predisposition of the uterus to carcinomatous action:—"The patient, who was a widow lady of about the age of fifty, was suddenly seized with violent pains like those of labour, and a discharge of blood from the uterus. Her menses had ceased two years previously. But in consequence of a severe fall on her back, she had been for some time the subject of a slow draining of blood from the uterus. These complaints had continued for some months when the reporter of the case was called to her assistance. In a few days the os internum was gradually dilated, the discharge and pain suddenly returned, and a large, oblong, flesh-like substance was at length extracted; when the pains and flooding ceased. This substance appeared to be nothing else than the fibrous part of the blood. The patient was seized with symptoms of cancer in utero, and died in about three months. Smellie's *Midwifery*, vol. ii. coll. 8, No. 2, case 1. "A pious and good woman, a widow, who had lived in sterile matrimony for twenty-four years, and who had survived the death of her husband six years, became the subject of the reporter's professional care. In a few days afterwards she was delivered of a mola of very inconsiderable size in comparison with the extreme severity of the symptoms which had attended it." Communicated by J. P. Worffbain, *Ephem. Germ.* dec. iii. an. 7, 8. p. 403.

Another case which produced symptoms similar to those of prolapsion of the womb. The mola was at length spontaneously expelled by pains like those of labour. It was very firm in its texture, and was of the size of a child's head at the full period of gestation. *Ephem. Germ.* dec. i. an. 2. p. 153. A case of mola which weighed twenty pounds. *Ephem. Germ.* Lips. 1678, p. 73. A case of expulsion of two molæ which were hard and thick, within twenty-four hours after the birth of a living child, followed by the eventual recovery of the patient. *Ephem. Germ.* Lipsiæ, 1678, 1682. p. 322. A woman of Strasburgh, thirty-two years of age, after having sustained a premature and quick labour, became the subject of a gradual enlargement of the abdomen for ten years. During the whole period of her extraordinary gestation, her principal symptoms were a sense of weight and tension of the abdomen, with occasionally a discharge of flatus from the genitals. Within a few months of her death she grew cachectic, became rapidly emaciated and œdematous, and finally the subject of a distressing difficulty of breathing. On opening the abdomen two days after death, seventy-two molar masses, of a blackish colour, but of different figures and degrees of solidity, were found within the uterine cavity. One only was adherent to the uterus, and that was affixed to its right side not far from its orifice. The solid masses weighed sixty-four ounces, while the fluid filled fifteen ancient Alsace measures; so that the whole together weighed eighty pounds, apothecaries' weight. The integument of the abdomen was so thin as to be almost transparent. The navel was perfectly obliterated; the fat was almost entirely consumed; and the muscles were

pale, flaccid, and very thin. The peritoneum, in some places, was so strongly attached to the uterus that it could not without the utmost difficulty be torn from it. The body of the womb, which is naturally thick, was as thin and transparent as the cutis of the abdomen, and of a surprising capacity." Reid and Gray's *Abridgment of the Transactions of the Royal Society*, vol. 7, p. 198. See a case very similar to the one just related, viz., that of a woman who discharged several molæ of immense size, given by Plater apud Spachium de Gynæsiis.

OF THE DIAGNOSIS OF UTERINE MOLÆ.—It is not always easy nor even possible to establish the fact of the presence of one of these adventitious masses within the cavity of the womb. We are therefore often incompetent to indicate the phenomena by which their presence should be distinguished either from other morbid states of that organ, or from those incident to the development of true pregnancy. The following statements may, however, assist us in coming to correct conclusions on these subjects. Gestations with molæ are ordinarily attended during their earlier formation with severer gastric symptoms than those of foetal gestations of a corresponding period. In other words, the sickness, the vomitings, the loss and depravation of the appetite, are usually more observably intense and distressing in the former than in the latter case. In gestations with molæ there is seldom a perfect suspension of the catamenial function; while this suspension is a characteristic symptom of true and healthy foetal gestations. The presence of molæ in the uterus is seldom unattended by very considerable disturbances of the natural actions of the system, such as might be expected to be quickly followed by a dingy paleness of the countenance, great general emaciation, difficulty of breathing on the slightest exertion, rapid prostration of strength, and a corresponding depression of the animal spirits. During the first two months of true gestation the hypogastrium sustains an actual reduction of its former fulness; whilst in the other case, the uterus often develops so rapidly as to present itself in considerable bulk above the pubes at a correspondingly early period. In the pseudo-gestation, the inferior part of the abdomen is painful to the touch, harder and more resistant on the application of pressure, and more diffused as to the extent of its development; whereas in true and healthy pregnancy it suffers little or no inconvenience from the action of moderate pressure, and more immediately recovers its proper and more defined position upon such pressure being withdrawn. Utero gestations with molæ are usually attended by occasional discharges of pure blood; but more frequently by a continuous stillicidium of an offensive serous fluid: whereas in true gestation the discharge, if any, is much more frequently that of an ordinary fluor albus. In the latter case also the uterus sustains a pretty central locality within the abdominal cavity, under all circumstances and changes of position of the patient; whereas in false pregnancy from mola, the uterine globe is said to fall from side to side and in all directions, as determined by the

patient's movements, as happens also in cases of fœtal gestations, subsequently to the death of the child in utero. The pseudo-pregnancy is usually productive of much greater disturbance of the functions of the pelvic viscera immediately contiguous to the womb, than is common for them to have to sustain, during any period of natural gestation. The test of the presence or absence of milk is not always in either case to be absolutely depended upon; but its presence in MODERATE ABUNDANCE furnishes a pretty positive indication of the case being one of true pregnancy: the very sparing secretion furnished by the breasts being of only brief duration, and consisting of an almost aqueous fluid in the case of a gestation with mola. Hippocr. de morbis mulierum.

The period of expulsion of these masses, when their removal is undertaken by nature, is rather uncertain; but in a great majority of them it occurs within seven months from the commencement of their accompanying symptoms. The mechanism of their expulsion by the uterus, is precisely the same with that which the uterus employs to effect the expulsion of the fœtus at the full period of gestation; excepting that, ordinarily, the mola is expelled at less expense of violence and duration of uterine contraction; although at other times the process has been found equally and even more painful than that of natural labour. There is, however, one important difference between the two processes, viz., that in the one case loss of blood in any considerable quantity, if indeed in any quantity whatever, is not essentially an accompaniment of it; whereas in the other, its actual circumstances being those of a diseased condition of the organ principally concerned, experience proves that uterine hæmorrhage, often profuse, constitutes as it were indispensably a part and parcel of it. Nevertheless the loss of blood in the greater number of cases, although more or less continuous during the entire process, is not so considerable in final amount, as necessarily to place the patient's life in jeopardy. Hence the prognosis in cases of this kind, especially under their more frequently occurring circumstances, should be represented as favourable. It should at all events be so considered in cases of molæ of moderate size, and of no long duration of their gestation, in women accustomed to the enjoyment of tolerably good health, and not known nor suspected to have been the subjects antecedently of any structural disease of the uterus. On the contrary, the prognosis should be considered as unfavourable, when the presence of the mass in the uterine cavity is accompanied by frequent and profuse discharges of blood; when the patient by these losses is observed to have sustained a serious diminution of general health and strength, accompanied by a corresponding emaciation of her person; when she continues to be uninterruptedly harassed and fatigued by the severely painful affections incident to her condition for many months; the abdominal tumour in the meantime acquiring a rapid accession of bulk; when she is seen to be the subject of a constantly burning and exhausting fever: and lastly, when the case is known to be complicated with a malignant disease of the womb.

OUR TREATMENT of cases of molæ has for its object, their best and most judi-

cious management during the patient's gestation with them; and secondly, the extension of such manual and other assistance, as might be best calculated to promote and ensure the safety of their expulsion or removal. During the earlier weeks of cases of this kind, little would be required to be done beyond a judicious management of the functions of the stomach and bowels. After the occurrence of the first hæmorrhage the practitioner would prescribe rest in the horizontal position, and abstinence from all sudden movements or other causes of excitement of the heart and arteries, and in short the whole of the ordinary routine treatment usually considered proper for cases of early natural gestation similarly complicated. Hæmorrhage in those cases being, at least, ONE, of the most alarming symptoms, the patient should be recommended to reside within a short distance of her own or any other skilful medical practitioner, whose duty it should be to secure her, if possible, and as soon as possible, from becoming the subject of any serious losses of this kind. During the progress of a gestation with a mola, a time would at length arrive when it might be desirable or even imperiously necessary to entertain the question, and if practicable, to come to a conclusion on the subject, of an accurate diagnosis.

There are several forms and stages of gestations with molæ, for the proper management of which it might become the duty of the medical attendant to give mechanical assistance. Suppose, for example, a case of this kind to have become complicated with profuse and frequently-repeated hæmorrhages, even at a period of the gestation short of what might be deemed equal to five months of a natural pregnancy; it would be the duty of the medical attendant in such a case to avail himself, as soon as possible, of the best means he could devise for the rescue of his patient from a state of so much danger and insecurity.

For the repression of moderate hæmorrhages under the circumstances here supposed, the dexterous use of the plug might prove exceedingly useful; inasmuch as it might be expected not only to answer its primary intention, that of speedily arresting the hæmorrhage; but also, in many cases, that of disposing the uterus by its presence to complete the process going on within its cavity, and consequently to relieve itself so much the sooner of its morbid contents. Where, in such a case, would be the evil of this result? But we may suppose a case of still greater danger from the profuseness and frequency of the hæmorrhages already sustained; so profuse and frequent we might suppose them, as would make it much more dangerous, or even almost certainly fatal, if the patient should be permitted to remain liable to any future occurrence or repetitions of them. If any thing could be done in a case so circumstanced, it seems to the author impossible that there could exist two opinions as to the duty of obtaining all practicable security against such occurrence and repetitions. The experienced reader in matters of this kind, is aware that we are possessed at least of one very powerful means of attaining our object; viz. that of the operation usually practised in natural gestation, for the induction of premature labour; or at least one founded on the same principle, but slightly modified, to meet the exigency of

the case more immediately under consideration. The measure to be adopted for our present supposed case, would be to effect a gradual, but the speediest possible, dilatation of the orifice of the uterus by means of a suitable instrument.

In many cases the index finger might be found the most useful and most convenient instrument for effecting the initiatory part of the operation. When deemed too large, a round and blunted metallic or wooden staff, sheathed and softened by a well-applied covering of leather, of about the size of an ordinary bougie, or any other size properly adapted to the case, might be easily substituted. In some cases, the orifice of the womb might be already so large as to require, even in the first instance, the use of an instrument of an inch or more in diameter. Its size should be always such as should make it fit the orifice and inferior part of the neck of the uterus. When duly introduced and carried up to a moderate distance within the shoulder or inferior part of the cavity of the body of that organ, its handle or purchase part should be immoveably secured in that position, until it might be necessary to make some change, as to its size, position, or mode of application. The presence of such an adventitious body as now supposed, within so irritable a tissue as that of the parietes of the cervix of the uterus, might naturally be expected, in the course of some hours, to produce some positive change of condition of the part in question; such, for example, as an increased action of the mucous glands so numerous implanted within its tissue; a diminution, consequent on this result, of its natural rigidity; and therefore such an amount of relaxation and susceptibility of further development, as might warrant the introduction of a much larger instrument in its stead. Under a judicious management of this process, we are fully entitled, by experience of its efficacy in analogous cases, to expect that in the course of about twenty or thirty hours, or at farthest, in two or three days, it would have the effect of inducing such a powerfully expellent action of the uterus as might enable it, after a struggle of not many hours' duration, to rid itself completely of its dangerous contents. In the event of a more than ordinary development of the body of the uterus, from the causes under consideration, it might be naturally anticipated that its cervix should sustain a corresponding extension of its capacity, and even such an extension of capacity as readily to allow the hand of the practitioner to be passed through it into the cavity of its body. This advantage if attained, and there would seem to be no room to doubt of its attainableness under the circumstances supposed, would at once give to the medical attendant the most perfect practical control over the issue of his case. His first and most immediate object would of course be to effect the separation of the parietes of the adventitious body from those of the uterine cavity, by the gentlest possible disruption of their connecting tissues; if perchance such tissues he should have the misfortune to encounter. If assisted by any co-operating expellent action of the uterus, he would then at once proceed to effect the entire dislodgement of the mass or masses which had been the efficient cause of

its morbid development. If not, it would perhaps be his best practice in the first instance to content himself with a good purchase of some part of the mola; and afterwards, after the lapse of a few minutes, that is, sooner or later as he might become cognizant of a disposition on the part of the uterus to contract, to proceed to draw down very cautiously, and by very gradual movement after movement, until he should accomplish the entire evacuation of the uterus. The occurrence of any considerable amount of hæmorrhage, which might accompany or supervene upon such an operation, would be to be met on principles to be hereafter laid down for the treatment of uterine hæmorrhages at the full period of gestation, subsequently to the birth of the child, and the expulsion or removal of the placenta.

The artificial removal of smaller molæ than we have here supposed, might no doubt be often effected by means of the finger; and more certainly by means of small forceps, so contrived as to make it impossible for their mutually closing surfaces or teeth to include within their purchase a single fibre of the proper tissue of the uterus itself. The after treatment proper to be adopted in cases of successful operations, such as has been just described, would form a subject too extended for our present discussion. Some few hints, however, in illustration of the principles on which it should be founded, and of the indications which it should have for its object, will be offered for the reader's consideration at or near the conclusion of the next article.

OF THE MORBID FORMATIONS WITHIN THE UTERINE CAVITY, USUALLY CALLED HYDATIDS OF THE UTERUS. TÆNIA HYDATISM. MOLA HYDATIGINEA. —These are also masses of irregularly and anomalously organized productions, consisting partly of carneous, but principally of membranous tissue, found included within the cavity of the body of the uterus. Of late years, they have not been considered to belong to the class of animal substances deemed true polypi. The commencement of their development is usually found connected either directly or indirectly with the sexual function of conception. They consist of assemblages of membranous bulbs of different sizes, varying beyond that of a pin's head and of large grapes, connected together by minute shreds of ligamento-membranous tissue, and charged individually with a quantity, nearly equal to their capacity, of an aqueo-transparent fluid. They are generally the accompaniments, as also probably the results, of blighted and other diseased forms of eventually unproductive gestations; or if we admit the fact of their being ever produced independently of any connexion with a contemporaneous gestation, the author feels disposed to the opinion that they must be results of conceptions of antecedent dates.

Modern writers have distinguished hydatids by two principal varieties, the solitary and the social. The solitary is exclusively the variety which we meet in the female genitals; and in the uterus it is always observed to be pediculated. Thus connected by their pedicles, they are ordinarily found in large masses or

clusters. In size they vary considerably; some being smaller than millet seeds, others as large as Portugal grapes; whilst some few, on very rare occasions, may be seen to have acquired the size of walnuts. Their form is globular, and ovöid; and the length of their pedicles about a third of an inch. The colour of a mass of uterine hydatids when recently discharged is red, from the blood by which they are stained. When put into water, they are seen to assume a light pinkish hue; and after having been washed with repeated waters, they present very much the appearance of bunches of ripe white currants. Their constituent tissues are a membranous cyst consisting of three tunics very distinguishable in those of larger size, and a quantity of fluid sufficient to distend them. These coatings are serous, fibrous, and mucöus, in the same order as the several tunics of the intestines. The fluid which they contain is limpid. In the very small ones it is beautifully transparent; in those of middle size slightly opaque; and in some of the largest, verging towards a reddish yellow. It has less density than distilled water. It does not redden blue vegetables; nor does it turn the sirup of violets green. It cannot be coagulated either by heat or by acids. It is therefore not albuminous. In this respect it differs from the fluid found within the varices of lymphatic vessels, sometimes mistaken for pediculated hydatids, which is coagulable both by heat and acids.

Of the vitality of uterine hydatids it has been already stated that great doubt is entertained by modern physiologists; although it has been positively asserted by M. Percy, in *Corvisart's Journal de Méd.* for September, 1811, that "immediately upon being plunged into hot water, after their expulsion from the uterus, he saw them move, and twist themselves in various directions; but that no sooner were they removed from the water than they instantly perished." Of the actions here imputed to pediculated hydatids of the uterus immediately after their expulsion, it is obvious to observation, that it might be very sufficiently accounted for on principles purely mechanical. The water in M. Percy's experiment is acknowledged to have been hot, not simply warm; and it is well known that many substances, totally destitute of life, as clarified quills, pieces of woollen fabric of the most ancient fashions, tanned leather, and a thousand other things might easily be made to writhe and twist themselves in different directions upon being exposed to the action of different degrees of heat.

The symptoms which usually accompany the earlier period of hydatid gestations are precisely those of the first weeks of natural pregnancy; a circumstance which must obviously make it extremely difficult, if not impossible, to distinguish the one from the other. The patient accordingly sustains a suppression of the menses, loses her appetite, becomes the subject of sickness in the morning, vomitings, loss of flesh, development of the mammæ, accompanied by a secretion of a thinnish milk, and even sometimes by a distillation in small quantities of the same fluid from the nipples. In some cases the ordinary phenomena, which together produce the great change in foetal gestation called quickening, have been observed, perhaps only fancied, to have manifested themselves, accompanied by movements, probably of gaseous fluids,

within the intestines, which have been mistaken for the movements of a child in utero. These movements, however, have never been such as to be felt by the patient's husband, nor by the hand of the medical attendant, during his practice of abdominal examination. In such a case, moreover, the stethoscope could not enable us to ascertain the existence of what might not be supposed to exist; nor often perhaps to distinguish any appreciable difference of condition of an uterus containing an adventitious body like a mola or a mass of hydatids from another uterus charged with the lifeless remains of an originally vital ovum. M. Percy attempted to establish a diagnosis between a true pregnancy and this form of false pregnancy, by founding his distinction on two principal circumstances, appertaining exclusively, as he supposed, to the latter variety of gestation. "The first is, that in cases of hydatid gestation, a slight hæmorrhage presents in the second month, returns at uncertain periods, and continues throughout the whole duration of the disease; and the second is, the peculiar state of the neck of the womb, which for some time remains open, and neither changes its form nor its position." Nauch, sur les Maladies des Femmes, p. 188. These important symptoms, although plausibly suggested, and really indicative of something unusual and ambiguous in the state of a gestation, are however not sufficiently characteristic of any given peculiarity of that state, to warrant us in the presumption of its being essentially a hydatid gestation. Of these distinctive signs, by no means suggested for the first time by M. Percy, the latter is incomparably the most valuable. Slight hæmorrhages, or rather appearances of blood, during the earlier months of natural gestations, and the diagnosis can only be difficult during the earlier months, are of such frequent occurrence as to make them totally valueless as an indication of ANY SPECIAL VARIETY of diseased or preternatural pregnancy.

The remaining facts of gestations with molæ may probably be more impressively communicated to the reader by the recital of a few select cases of the disease, than by any formal disposition of them in a regular pathological history which the author might be able to produce.

From the almost absolute universality of the connexion of hydatid gestations with the function of conception, the reader will observe, without surprise, how small a proportion of its subjects, whose cases have been recorded, had passed the age of child-bearing, or who were not so situated as not to be within the reach of the ordinary circumstances of liability to the influence of impregnation. Let this point be illustrated. Mr. S. William Mills was consulted by a lady who thought herself pregnant. Nothing is stated of any improbability that she might have been so. The event proved her to have been the subject of mola. Her age is not stated. *Medic. and Physic. Journal*, vol. ii. p. 447. A case of hydatids, in which the subject spoke confidently to her having felt the motions of the child in the fifth month of her supposed pregnancy. Communicated by the late Dr. Collins of Swansea, *Lond. Medic. and Phys. Journal*, vol. xxxiii. p. 346. A case of hydatids, of which the subject was a poor woman, who thought herself in her fourth month of pregnancy; and also that of another poor woman who

thought herself seven months gone with child. Smellie's Midwifery, vol. ii. Coll. 8. No. 3. Two cases in the practice of Dr. Burton of York. The subject of the first case had a suppression of the menses, accompanied by every other symptom of pregnancy, excepting that in the fifth month she began to have a discharge of blood, and that she had not felt the child move. Dr. Burton introduced his hand into the uterus, and brought away some little oblong bags full of water which no doubt were uterine hydatids. A few of these hung together in a cluster, and there were several clusters. The patient recovered. The second case was similar to the first, excepting that it took place in the seventh month of pregnancy, and that the hydatids all hung to one stalk. Burton's Midwifery, obs. xxxi. p. 336. A woman was delivered of a body resembling a bunch of raisins of different sizes, matted together with clotted blood: she had felt movements like those of a living child, and therefore believed herself to be in the fifth month of pregnancy. She had a slight hæmorrhage for three months. Mauriceau, Append. to vol. ii. obs. cvii. p. 57. A case of hydatids of which the facts were:—age 28; mother of three children; pregnancy presumed; succession of hæmorrhages; the orifice of the uterus found sufficiently dilated to admit the finger; expulsion of a gallon of hydatids at about the 10th month of the supposed gestation; final recovery. American Medic. and Phys. Register, vol. iii. p. 119. A case of hydatid gestation of which it is stated, that the uterus had contained fifty cysts or bladders, of the size of a pullet's egg, which contained a transparent fluid, of a gelatinous consistence. Communicated by Dr. Himly to the Editors of Hufeland's Journal, and reprinted at tedious length in the Journ. Gén. de Méd. tom. xli. p. 109. The history of "A RARE CASE of a discharge of hydatids and of a puriform gelatinous matter from the uterus and anus, by M. Zetten." Comment. de Reb. in Scient. Nat. et Méd. Gest. vol. xxxii. p. 709.

That the morbid power possessed by the uterus of engendering the diseased masses under consideration, is one which it can only exert in connexion and in co-existing agency with those of its natural functions of conception and gestation, may be further inferred from the extreme frequency of abortive and premature labours, consequent upon foetal gestations rendered complicated by the presence of hydatid masses within the uterine cavity. The connexion here referred to is so notorious that it would appear scarcely necessary to quote any examples of its results. The following sketch of a case of this kind may however seem deserving of the reader's perusal, by reason of the peculiarities of its complications. A lady, aged about three-and-twenty, engaged the author's professional services at an early period of her second gestation. She was thus early in her application, in consequence of having been the subject of much severer symptoms than are usually found to accompany natural pregnancy in the earlier months. Those which principally harassed her were an acute pain of the hypogastrum; an immense development of the abdomen, accompanied by extreme tenderness on pressure; an almost constant stillicidium of a reddish

watery discharge] from the genitals; great sickness; frequent vomitings; and a depression of spirits amounting almost to alienation of mind. She occasionally sustained considerable losses of blood. In the sixth month of her gestation she was the subject of a hæmorrhage, which occasioned a great alarm to her family; without, however, compromising, at that time, the progress of her gestation. After the lapse of about another month, the process of parturition was instituted, but not without having been preceded by an alarming hæmorrhage; in consequence of which the author was induced to undertake the patient's delivery artificially, as soon as it seemed to him practicable to accomplish it. On making an accurate examination of the facts he found presenting, as he supposed, a placenta of an extraordinary volume. The orifice of the uterus being in a state of sufficient development, he forthwith proceeded to extract the child by the feet; which he found himself competent to effect without much difficulty. On bringing the little creature into view, he discovered it to be not only very premature in comparison of its supposed period of gestation, but also the subject of several malformations, which need not now be described. Having waited for about an hour and a half after the birth of this imperfect produce of conception, and uterine contraction not yet taking place, he passed up his hand for the removal of the placenta. He found the uterus most extraordinarily developed, in consequence of being charged with an immense mass of what he still conceived to be placental structure. He undertook its extraction immediately, and accomplished it safely in the course of a few minutes. On examining the different substances which had thus been withdrawn from the uterus, he discovered, that they consisted of an imperfectly-formed child; of a placenta of a very moderate weight and volume; and, connected with it by a strong ligamentous tissue, of a membrano-carneous mass of extraordinary dimensions. This adventitious body, weighing between five and six pounds, whilst the fœtus weighed only four and a quarter, had probably been intended for the placenta of another fœtal subject; but was now become converted into a mass of carneo-hydatid tissue. The patient survived this result. But she did not recover her former health and strength for many months; nor indeed at all, until it was determined by her friends that she should seek better health in the land of her nativity. She now resides in the full enjoyment of that blessing in the immediate neighbourhood of Perth, in North Britain, and is the mother of several children. A patient of Dr. J. Lanzoni became the subject of almost constant hæmorrhage during an early period of one of her gestations, which nevertheless terminated happily. She was eventually delivered of a fœtus inclosed within its membranes of about the size of a goose's egg. The expulsion of this premature ovum was accompanied by that of an immense mass of vesicular bodies containing a transparent fluid, presumed to have been hydatids. The placenta soon followed, and the patient subsequently experienced a very sufficient amount of lochial discharge. The case is given at great length, and will be found very interesting upon perusal. *Ephem. Germ.* Dec. ii. an. 9, p. 73.

A clergyman's lady, who had believed herself pregnant since the month of April, became the subject of fever accompanied by frequent vomitings in the beginning of June. During the subsequent fortnight she experienced a trifling stillicidium of a red fluid from the uterus, which however on the 15th of the same month assumed the form of a profuse hæmorrhage. The patient aborted on the 18th. The secundines shortly followed, accompanied by a hæmorrhage which half filled a water bucket. In the mean time the patient continued to complain of intolerable pains of the left hypochondrium and of the leg of the same side. On the evening of the same day she was delivered of a large mass of hydatids. After the lapse of some weeks she perfectly recovered her former health and strength.

A married lady, the subject of a supposed pregnancy, was seized with an intense febrile excitement, accompanied by a severe vomiting of blood. The enlargement of the abdomen exceeded what was considered usual at the presumed period of the gestation; and whilst suffering during the action of vomiting, the patient was much incommoded by its bulk. After some days she therefore began to doubt of the motion of the child, and felt intense heat in the lumbar region. After the lapse of some weeks subsequently, and at a time when a delivery was not suspected to be near, she aborted of a female child, which was followed by a mola interspersed with lobes of flesh and many hydatids. The patient recovered. This and the immediately preceding history occurred in the practice of Dr. J. C. Bautzmann. *Ephem. German. decad. ii. an. 8, p. 130.*

We have thus far assumed an intimate connexion to subsist between the operations of the conceptive faculty and the production of uterine hydatids, and have attempted to illustrate that principle by an appeal to facts. The cases which we have adduced will appear on a review of them to have been those of child-bearing women, or else of females liable from age and other circumstances to become the subjects of pregnancy. It has however been pretended that cases have existed of the occurrence of masses of hydatids in persons of advanced age; and a Scottish professor of midwifery, the author has been informed, is in the habit of adducing a case of this kind, of which the subject was sixty-nine years of age. Supposing this case authentic, and moreover that it had been really a case of uterine hydatids, it would seem probable that it might have originated in a blighted conception of an anterior date. The following history may be offered in illustration of an assumption of that kind. The subject of it was a patient of the late Dr. Squire, aged forty-four, and the mother of several children. She was in the fourth month of a supposed pregnancy when she was seized with profuse hæmorrhage, accompanied by pains similar to those of labour. She therefore presumed that she was about to miscarry. When Dr. Squire arrived at her residence, he found her in a state of great exhaustion from loss of blood, and requested that the present reporter of the case might be sent for, to assist him in the treatment of it. The uterus was charged with a mass of hydatids of between two and three pounds weight, of which three parts at least appeared

to be enclosed WITHIN AN INVESTMENT OF DECIDUA. No foetal part of the ovum could indeed be distinguished: but as the interior of the mass still in a great measure presented the distinctive character of placental tissue, there was no good reason to doubt that the case had originally been one of true pregnancy. Subsequently to that time, the same uterus produced several other hydatid masses, which it expelled at successive periods after uncertain intervals of between five and two-and-twenty months; of which, however, not one was found included, like the first, within an investment of decidua. When the author attended her for the last time, the patient was in her fifty-first year, and had ceased to menstruate three years previously. How long after that occasion the same person continued the subject of her malady he had no means of learning, inasmuch as in the course of a few weeks subsequently to her then indisposition she went to live in a remote part of London, whence he never received any communication from her.

There are very few examples of uterine hydatids recorded in books, of which the subjects at whatever age HAD NOT continued to menstruate up to the period of their date. A case is given by Dr. Dardignac, of a woman who became a subject of the malady at the age of FORTY-SEVEN, and who, "after the mass was expelled, recovered a moderate degree of health." *Journ. de Méd. etc.* tom. ix. p. 54. In the description of this case nothing is said about the catamenia. But the reader is well aware that women often menstruate at and after the age of forty-seven. In the case of another female, whose age was forty-six, we are expressly told that her catamenia had always appeared until the August of the previous year. "She had been THEN seized with fever, and had much loathing. Her tongue was loaded, and she complained of much nausea. The abdomen became painful and considerably enlarged, until at length, at a moment of crisis, she voided a great quantity of hydatids; of which some were as large as pigeons' eggs, and the rest of all smaller sizes. Upon the mass being laid open, a third of it was found to consist of a dingy white matter like pus of a bad quality, having an odour which it was impossible to bear. She continued to void hydatids, to the number of a thousand or twelve hundred, for about six weeks. At length, however, she began to improve in her general health, and her abdomen subsided to its natural size, and in the end she recovered a moderately good state of health." Communicated by M. Berthelot. tom. lxxxiv. p. 48. "A gentlewoman about forty-eight years of age, the mother of many children, after a respite of six years, had, in November 1730, the ordinary symptoms of conception, which left her in the following February; from which time to the end of March she every night discharged, per vaginam, a considerable quantity of blood: and not perceiving an increase of the abdomen, nor in the size of her breasts, both circumstances being indicative of something preternatural in her case, she concluded that her menses were leaving her at their usual period. But having been taken with great pains in the back on the first of April, and having some other symptoms usually

precursory of delivery, there came away at short intervals a very large number of hydatids of all intermediate sizes between that of a nutmeg and a pin's head; some filled with clear, others with bloody lymph, all of them propagated in the manner of a cluster of grapes, from a spongy substance answering the purposes of a placenta. After the discharge of these substances, she in a few days recovered her accustomed health. Upon boiling some of the hydatids, they appeared like the ovarium of a boiled hen, with this difference, viz. that in the hen the contents of the ova concrete, but in this case not: but the transparency was changed to the colour of bile diluted with water." Communicated by Mr. W. Watson. *Martin's Abridgment of the Philosophical Transactions of the Royal Society*, vol. ix. p. 188. Such are a few examples of the oldest subjects of uterine hydatids which have occurred in the author's reading, with the exception of the following; which, however, he can scarcely believe to have been an indisputable example of the disease under consideration, although specially designated as such by its reporter. "A woman, SIXTY-FOUR years of age, was admitted into the hospital at Vienna, the subject of an inguinal hernia. Some years before, she had been attacked by a hemiplegia of the left side, from which she had recovered. She complained of severe pains of the loins, and of the parts about the pubis, and was harassed with vomitings. These symptoms, however, ceased upon the escape of a calculus from the bladder of about the size of a French bean. But the pains afterwards returned, accompanied by several other formidable symptoms, which put an end to the patient's life on the 14th day of the malady. On opening the body the stomach was observed to be of immense volume, and the small intestines to be so greatly distended by flatus as to equal the size of a man's arm. The gall-bladder was found charged with nine calculi of different sizes, and also with a whitish purulent matter. The whole cavity of the uterus was filled with compressed hydatids, which were collected in four glomers of the size of a bean. The left ovary consisted of two cysts, filled with black purulent matter, one as large as a hen's egg and the other less. IN THE RIGHT OVARY WERE SEVERAL HYDATIDS of different sizes, the largest equal in size to a filbert; and at the upper part, a round bony tumour of the size of a chick pea." *Sandifort's Thesaurus*, vol. iii. p. 56. The author believes that few of his experienced readers will recognise in this history a genuine example of a case of uterine hydatids.

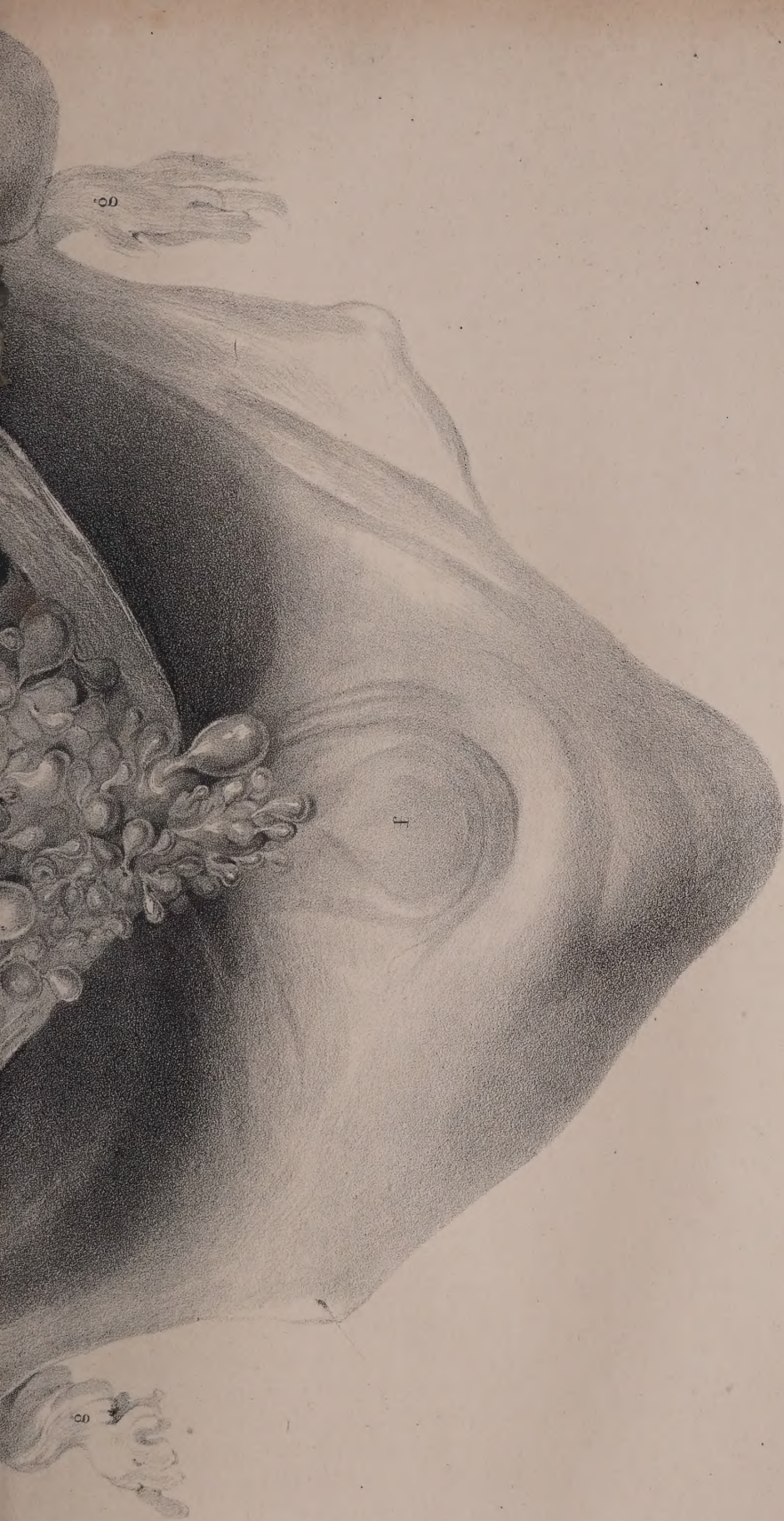
Cases are rather numerous recorded of hydatid gestations complicated with diseased conditions of the ovaries and other appendages of the uterus. "Mrs. B. thirty-five years of age, and the mother of three children, became the subject, in the fifth month of her fourth pregnancy, of repeated hæmorrhages from the uterus; for which she was treated by gentle aperients and acids; without, however, being substantially benefited by them. She sustained almost daily losses of blood; in consequence of which she became rapidly reduced in flesh; whilst, at the same time, she lost the natural bloom of her complexion, her appetite, and her ordinarily cheerful spirits. These hæmorrhages returned from time to

time in uncertain quantities, and eventually brought on a state of extreme irritability and wretchedness. About the middle of the seventh month of her supposed gestation, the action of labour came on, but unfortunately accompanied, as might have been expected, by considerable hæmorrhage. The ovum, together with a quantity of hydatids, which weighed three pounds and a half, was expelled in one mass, after which the hæmorrhage totally ceased. The patient, however, experienced a very tardy convalescence; nor did she, indeed, ever fully recover her former state of health and strength; for after surviving about seven months, she died universally cachectic and dropsical."

INSPECTION OF THE ABDOMINAL CAVITY AFTER DEATH. Before making any incision through the anterior parietes, the left iliac region was found considerably elevated by a subjacent tumour of about the size of two fists. On dividing the integuments in the usual manner, the tumour was observed to consist of an enlargement of the ovary of the same side irregularly knobbed on its surface and encysted within. Its cysts, which were not numerous, contained viscid fluids of different colours and consistence. On making an incision into the uterus, the cavity of its body was found to contain a carneo-vesicular substance, which almost emulated the hardness of an actual scirrhus. It was about the size of an orange, somewhat flattened by compression. The orifice of the womb was considerably inflamed; whilst the passage through the cervix was charged with an unusual quantity of mucus, tinged with blood. Attached to the surface of this substance, as well as deposited within the interior of its parenchyma, for such was the nature of its tissue, were observed a great number of vesicular bodies, which, upon close examination, were discovered to be pediculated hydatids."

In the case which Pl. xxiv. very faithfully represents, both ovaries are seen enlarged, and otherwise diseased. The left is laid open to show its cysts. The other is left uncut. The subject of the case was a married lady of about five-and-twenty years of age, and the mother of one living child. She had considered herself pregnant for about eight or nine weeks, when she became the subject of a considerable discharge of blood. The medical attendant of the family was forthwith consulted, and speedily afterwards Dr. Merriman. The hæmorrhage was arrested, and for some days subsequently the supposed gestation went on without further interruption. Within a week afterwards, however, the patient experienced another loss of blood much more considerable than the former; such indeed as very nearly to have extinguished life before any assistance could reach her. The author saw her for the first time in a state of extreme prostration, consequent upon that second hæmorrhage: and finding that the flooding had ceased, and that the orifice of the uterus was but triflingly dilated, he contented himself with securing her for the time against any further discharge of blood, by the introduction of a plug. In about two hours afterwards, and on the arrival of his friend, Dr. Merriman, it was made a matter of serious deliberation whether the plug should be then withdrawn, or left for some hours,





Drawn from the Subject Com. Stone by W. Ford.

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in the hope that the patient might rally and become better able to bear the operation. The latter alternative was adopted. But the shock already sustained had been so decided that she died in the course of a few hours, without having experienced any further hæmorrhage.

THE DIAGNOSIS of the uterine malady under consideration is attended with much difficulty; inasmuch as it is known to be often mistaken for, and almost as frequently complicated with, actual pregnancy. The best element of its diagnosis from uterine mola is to be founded on the ages of the parties, which experience has discovered to be the subjects of either disease.

The prognosis of the present malady is moreover extremely doubtful. The author has certainly, in his own practice, met with many more cases of recovery than of fatal issue, although of the latter he has seen several, not less than six or seven in twenty years. The prognosis must be assumed in a great measure to depend upon the nature and importance of any diseased condition of the uterus, or of its lateral appendages, with which the hydatid formation may be complicated. In the case represented in Pl. xxiv. it would seem very probable that the patient must have sunk at no very distant period the victim of the diseased condition of both ovaries, even if she had recovered from the immediate effect of the hæmorrhage which destroyed her. Other things being equal, there is more danger when the hydatid masses are of great volume, the result, in most cases, of a more protracted retention of them within the uterine cavity, than when they are of smaller bulk. The danger must also, it is obvious, have a direct reference to the suitableness and efficiency of the treatment applied to cases of this kind admitting of a prosperous result.

THE TREATMENT.—The most important part of the practice to be adopted in cases of hydatid gestations should have for its principal object the security of the patient against the occurrence and effects of losses of blood. It is difficult to prescribe very precisely the period when it might be proper to make our first attempts to effect the removal of a mass of hydatids; but there is no period, however early, when measures should not be made use of to suppress and to guard the patient against the future occurrence of considerable hæmorrhages, already several times repeated. The only difficulty in the application of measures of this kind would probably depend upon the possibility of the case to be treated being one of foetal gestation, threatening abortion, and not one of hydatid pregnancy. At an early period of natural pregnancy, complicated with trifling discharges of blood, the ordinary practice of recommending rest, and abstinence from stimulant food, and from all other causes of excitement of the heart and arteries, might be very proper, and prove sufficient to meet the demands of the case; whereas, in cases of hydatid gestations, which are seldom unaccompanied by symptoms of a morbid condition of the uterus, and also of impaired general health, it might be expedient to have recourse to the use of the plug at a comparatively early period of the supposed pregnancy; for at early periods, in such cases, it not unfrequently happens that profuse losses of blood

are sustained. Even in true gestations, it will hereafter be made to appear, that in cases of formidable hæmorrhages, it sometimes becomes indispensably necessary to place the uterus in a situation to relieve itself of its contents at comparatively early periods. A precisely similar practice is applicable to cases of hydatid gestations similarly complicated with dangerous hæmorrhages; and even where it might not be possible to arrive at an absolutely satisfactory diagnosis, it would still become the duty of the medical attendant to have recourse to the operation for the induction of expellent action of the uterus. That operation is to be performed precisely in the same manner, and on the same principle, with that for the induction of premature labour in cases of fœtal gestations complicated with successive hæmorrhages, which will be described in its proper place. Mrs. B., a married lady, about thirty years of age, and of an unusually delicate constitution, became the subject of profuse and repeated hæmorrhages during an early period of a supposed gestation. She had previously sustained several miscarriages, and also one or more labours complicated with losses of blood. On the occasion now immediately referred to, she was reduced to a state of alarming danger, which induced her experienced and well-informed medical attendant, Mr. Procter, of Fleet-street, to request the assistance of the present reporter of the case. She was truly in a state of the most imminent danger. The operation for the induction of abortion was proposed and performed. After the discharge of the liquor amnii the hæmorrhage ceased and never subsequently returned. The ovum seemed to be one of seven or eight weeks' gestation; but its placental portion was diseased, being charged throughout the whole of its substance with minute pediculated hydatids. The patient gradually recovered her previous state of health. If thus, at early periods of diseased gestations, the induction of expellent action of the uterus is peremptorily demanded as a measure essential to the preservation of the subject's life, how much more necessary must it not appear at more advanced periods, when the vascular and vesicular tissues of the womb and its contents are become infinitely more voluminous! Accordingly, in cases of profuse and repeated hæmorrhages, under any circumstances, accompanied by a considerable enlargement of the uterus, it becomes the practitioner's first duty to institute a careful examination, with a view to the establishment of a correct diagnosis. During the presence of molæ, or of masses of hydatids, within the uterus, the orifice of that organ is almost always found **UNCLOSED**, or at least sufficiently dilated to admit easily of one or two fingers being passed through it into contact with the actual parenchymatous mass, the subject material of the disease. The only substance with which a presenting body of such a character could be confounded, must be the placenta of a true ovum; which therefore would constitute a case that would require precisely the same treatment, viz. the induction of expellent action of the uterus. If we assume the orifice and neck of the womb to be sufficiently developed to admit of the gradual introduction of the hand into its cavity, the sooner that could be done compatibly with perfect safety, the better. If, on the other hand,

we suppose the uterus to be so rigid as not thus easily to admit the entire hand, it would become the duty of the practitioner to effect its development more gradually by a better adapted instrument, such as might be found in a round and tapering rod or staff of any stiffish material well covered with soft leather, and thickly coated with wax. The smaller extremity, somewhat rounded, of such an instrument, should be about equal in diameter to that of the existing amount of development of the orifice of the uterus. By the application of a slight propellent bearing upon it from below, it is pretty obvious that it might be made to produce a proportional amount of developing pressure against the parietes of the orifice and neck of the uterus; and such as eventually might suffice to procure a safe and easy passage for the entire hand into the uterine cavity. With that best and safest of all instruments it would then be the practitioner's next duty, by a cautious process of detachment of whatever of parasite or morbid tissue he might there encounter, to effect the perfect removal of the whole and every part of it. Christoph. a Vega, lib. iii. sect. 10, cap. 13. Art. Med. Valleriol, lib. i. obs. 10. Mercat. lib. iii. cap. 8. Nicol. Tulp. lib. iii. cap. 32. Cl. Picart in Zodiac Medic. Gallic. ann. iii. fol. 73. Johan. de Muralto in Scholio ad obs. xcv. dec. 2. Ephem. Germ. an. ii. p. 237. Daniel le Clerc, et Jacobus Munget. Bibliothec. Anatomic. tom. i. part. 1, page 474. Aetii Contract. Médic. Tetrab. xiv. script. 4, cap. 79. Ephem. Germ. decad. ii. ann. 6, p. 332. Ambros. Stegmann de partu in utero materno verminofacto, apud Ephem. Germ. dec. iii. ann. 7, p. 54. Notwithstanding the quaintness of the reporter's style in the original Latin, this last case must be interesting on account of the extraordinary peculiarity of its facts. Dr. Stegmann had been sent for in consequence of the patient having been taken with convulsions accompanied by loss of sense and speech. He found on examination a large soft substance presenting at the vulva; although "the mucous membrane of the vagina was altogether void of moisture, and that there was no dilatation whatever of the orifice of the uterus, nor any other effort existing towards parturition." Medicines of various kinds were exhibited, and attempts were made to effect the delivery by the hand; which however proved of no avail. "The midwife was directed to make use of a hooked instrument, and after its proper affixture, to draw down with it in the most cautious manner. In this way, with the greatest difficulty, and after much laborious effort, the midwife brought down a sort of cyst, which was the exterior membrane enveloping the fœtus, called the chorion" (probably the decidua), "very dense and preternaturally thick, from which an innumerable progeny of flat broadish worms, and of a red colour, came into view; WHICH HAD CONSUMED THE ENTIRE FŒTUS, WITH THE EXCEPTION OF A FEW SMALL BONES. The secundines were much shrunk, as if they had been baked in a baker's oven, and they adhered firmly to the membrane just described. They scarcely weighed one ounce. This puerperal voided no liquor amnii either before, or with, or after, this extraordinary birth. There was, however, a proper flow of the lochia on the fifth day after she had taken

some medicines. In the course of another year she was safely delivered of a healthy child; and, what is very remarkable, she expelled on that occasion about twenty of the same description of worms, but without injury either to mother or child." Two interesting cases of uterine hydatids, by Christopher Bautzmann, *Ephem. Germ. Dec. ii. ann. 8, p. 130*. A very curious case, by Zellar, may be found recorded in the *Commentaries de Rebus in Scient. etc. Lipsiæ, 1790, vol. xxxii. p. 709*, entitled "A rare case of hydatids, and of a gelatino-puriform matter, discharged from the uterus and anus." It was the reporter's opinion that the patient's malady had commenced with her first pregnancy, which had been complicated with prolapsion of the uterus. But, subsequently to her delivery, "she was moreover the subject of a puerperal fever, which lasted a considerable time. After the discharge of the hydatids, which was preceded and accompanied by many and diverse symptoms, a gelatino-purulent fluor was observed to be voided from the genitals in great abundance: and when the patient took too large a dose of certain balsamic pills which had been prescribed for her, HYDATIDS, CHIEFLY RUPTURED, WERE DISCHARGED FROM THE ANUS; and at length a worm-like body, resembling a lumbricus, eight inches long, made its exit from the vagina, attended with excruciating pains, and followed by a great quantity of gelatinous matter. From that time the discharge, both from the rectum and the vagina, gradually decreased in quantity, and after the use of tonics and evacuates for several months, the patient was ultimately restored to health. The prolapsion of the uterus, after it had been once reduced, never returned." If the facts as given in the above narrative were not misunderstood, nor wilfully misrepresented by the patient to her physician, it is obvious that there must have existed a morbid intercommunication between the vagina and the rectum. *Journal de Médecine, tom. xxxix. p. 359*. A case in which the hydatid mass, weighing nine pounds, was brought away by means of the hand introduced into the uterus. *Hist. de l'Académie Roy. des Sciences, 1715, p. 75*. A case in which the after-birth was found adhering to the womb, so as to give the impression of its being identified with it. *Gifford's Cases in Midwifery, p. 518*. A case of a poor woman, in the fourth month of her pregnancy, who was taken with violent flooding, and discharged a pot full of coagulated blood, together with hydatids, which were found adhering to a MEMBRANOUS SUBSTANCE. *Smellie's Midwifery, vol. ii. collect. 8, No. 3, case 1*. Another case by the same author, and under the same head, in which the patient voided a mass of hydatids which filled a two-quart basin. A valuable case, rendered uninteresting by too tedious a history of it. *American Medic. and Philosophic Register, vol. iii. p. 519*. A case, of which the principal feature was, that a huge mass of hydatids was extracted from a tumour of the right lumbar region of a young woman, twenty years of age, which M. Jannin, a surgeon of Vallieres, incised with a bistoury. She was quite recovered in twelve days. *Journ. Gén. de Méd. etc. tom. xxiii. p. 254*. A case of uterine hydatids, of which the commencement was attributed to the action of cold water. *Journ.*

Gén. de Méd. tom. xli. p. 109. A case of hydatids of the round ligaments of the uterus, and extending into the abdominal cavity. The account is given with so much want of distinctness as to make its proper pathology somewhat doubtful. Mémoires de la Soc. Médic. d'Emulation, tom. iii. p. 321. A case of hydatids discharged by coughing, accompanied by a tumour above the navel, in a woman, thirty-seven years of age, communicated by Dr. John Collet to Dr. Baker. Transactions of the London College of Physicians, vol. ii. p. 486. A case of uterine hydatids, complicated with the presence of a petrified fœtus. Ephem. German. dec. ii. ann. 8, p. 130. A case of hydatid gestation, given at great length by Dr. Joseph Lanzoni. Ephem. Germ. dec. ii. an. 9, p. 73.

In connexion with the above references, and as an appendage to the pathological history of hydatid gestations given in the foregoing statements, there is one extraordinary case which the author feels desirous of laying before his reader, although it should seem not to have any claim to be identified with the malady of which he is about to conclude his present account. The excellent miscellanies published in the seventeenth and eighteenth century, at Nuremberg, and other places in Germany, which in the course of this work we have usually designated by only one of its titles, viz. "The German Ephemerides," abound with cases of worms of the uterus. After careful perusal of the greater number of such cases, the author became convinced that the vermes and vermiculi in utero treated of in them were only so many examples of masses of hydatids. It would seem possible however, if we place an undoubting reliance on the authenticity of the case now to be quoted, that in respect at least to some of the histories to which he has just referred, his conclusion may have been unfounded. The case he alludes to is entitled, "A PECULIAR CASE OF A SPECIES OF MAGGOTS BEING DISCHARGED FROM THE UTERUS DURING MENSTRUATION. A farmer's wife, about twenty-seven years of age, always very healthy, applied to me about the month of June 1773 for a complaint in the uterus, with which she had been troubled for the space of three months before she asked my advice. About the time of menstruation, for three or four days before the appearance of blood, she had the usual pains in her loins, but severer than common, attended with an uterine discharge, of a greenish hue, and so exceedingly offensive to the smell that she could scarce bear herself. This discharge continued till the menses appeared. Now from the first appearance of this discharge until the cessation of the period, great numbers of maggots were brought away. They were all discharged alive. They were very small, and of an odd conformation. They had a large head and a small tail in comparison, and in figure much resembled tadpoles. When pressed between the finger and thumb the same disagreeable stench was emitted as from the uterine discharge. From these vermin the patient was entirely freed by injections consisting of a decoction of chamomile flowers and wormwood, with the addition of olive oil, which were thrown up twice a day. In this course she persisted for about three weeks; and has never since had any return of her complaint." Commu-

nicated by Thomas Cockson, surgeon, at Campden. Medical Commentaries, vol. iii. p. 86.

OF INFLAMMATION OF THE UNIMPREGNATED UTERUS.—Hysteritis.—Inflammation of the womb may take place under the three several conditions of its vacuity, pregnancy, and recency of date after delivery. We have now to consider the subject as an affection exclusively of the unimpregnated uterus. Inflammation of the uterus, in its state of vacuity, may again be either acute or chronic; and under each of these heads might be further distributed a number of specific varieties.

This organ, in common with all other parts and tissues of the living body, is subject to acute inflammation of a simple and non-specific character. That form of the disease, however, is of but rare occurrence, and is, for the most part, a consequence of accidents or injuries, or of some other influences productive of unusual excitement of the affected organ. The most frequent cause of acute hysteritis in its simplest form is the exposure of the general or genital system to the action of a severely cold temperature during the menstrual period.

Acute inflammation of the uterus generally commences with distinct shivering, accompanied by an exquisite sense of coldness of the parts within the pelvis, and by a deep aching pain of the loins, iliac regions, and the upper parts of the thighs. These symptoms must be expected to be followed by a strong sense of heat and of violent pain in the region of the uterus, not unfrequently exasperated by a bearing-down action of such of the abdominal muscles as nature usually employs to produce that effect. The uterine tissue in the mean time is found exquisitely painful to the touch, as well as perceptibly raised in its temperature. If the inflammation be an effect or an accompaniment of suspended menstruation, the suppression of that function continues, and becomes an essential element of the disease, until the latter shall have been more or less completely subdued by proper treatment. In the greater number of cases, of which the author has been able to learn the facts with adequate precision, the disease was accompanied from the beginning by a profuse muco-sanguineous discharge, remarkable for its strongly-viscid consistence; whereas, however, in some few cases the extraordinary phlogosis of the organs has been attended by no discharge whatever. The fever accompanying acute inflammation of the uterus is generally one of high tone, like that of rheumatic fever; with a large, full, incompressible pulse; excepting when the inflammation is propagated into the tissues of the vagina; and then the pulse assumes a more subdued character. Painful and difficult micturition is only an occasional accompaniment of this disease.

THE PROGNOSIS in a recent case of acute hysteritis should be considered as highly favourable, provided it be made the subject of early and vigorous treatment. The proper treatment must obviously consist in the application, and if necessary in quick succession, of the several means indicated by the principles

of the antiphlogistic system. Of these, the first measure should be general bleeding, carried to fainting. If this should be followed by a perfect subsidence of the pain, nothing further might possibly be required to be done, beyond paying proper attention to the state of the bowels and to that of the other secretions of the system. If, on the contrary, the pain shall not have been entirely subdued, or it should soon subsequently return, recourse must be had, without loss of time, to local bleeding by means of leeches applied to the vaginal portion of the uterus, in the manner already directed under several preceding articles. The uterus being tensely charged with blood, actually congested into a state of considerable enlargement of volume, this procedure must be gone into with considerable caution. In the first instance, the practitioner should content himself with the application of only three or four leeches at once; for under the circumstances here supposed, FOUR LEECHES will obtain a discharge of blood from the affected organ equal to sixteen or eighteen ounces; and if at any time the quantity thus obtained should fall short of what might be required to effect an entire solution of the inflammation, four or six more leeches, according to the demands of the case, might easily be applied afterwards. In the event of the local bleeding as now recommended proving insufficient to produce a perfect subduction of the pains and other active symptoms, the patient might advantageously go into a bath of a temperature between ninety-eight and a hundred degrees of Fahrenheit's thermometer, and there remain until she should feel a slight disposition to faint. After this, the abstraction of blood either generally or locally in the manner already stated might be repeated, or a large blistering plaster, lined with tissue paper, should be applied to the hypogastric and iliac regions. The inflammation and its accompanying fever still continuing, recourse should be had to the use of calomel and opium, in quantities sufficient to affect the mouth, or to that of blue pill and digitalis, so as to place the excitement of the heart and arteries under efficient control. By the adoption, consecutively and sufficiently early, of measures of this kind, the most intense cases of hysteritis may be expected in the course of a very few days to be perfectly cured. But if this most desirable result should unfortunately not take place, the inflammation might then indeed be expected to terminate in suppuration, or else to lapse into chronic inflammation of the same organ. The termination by suppuration is upon the whole a sanative crisis, and not unfrequently a safe and permanent solution of the disease; although it must be confessed that in consequence of the solution of continuity and of the loss of substance which it involves, it might leave behind it states of the tissue so injured as should predispose to future diseased actions.

Chronic hysteritis is a much more serious disease than is acute inflammation of the womb. Chronic inflammation is more dangerous, not only for the obvious reason that it is in its nature chronic, but also because it less admits of the use, and is less obedient to the action, of powerful remedies. The proper treatment of this form of inflammation of the uterus, if not based upon,

should at least have a distinct reference to, the nature of its cause. In some cases we know that it is the sequel of acute inflammation of the same organ. In many others it is the result of deficient action, or of diseased conditions of the catamenial function. A similar remark may be made to apply to certain abuses as well as to certain diseases of other functions appertaining peculiarly to the sex. Or it may be recognised as, and it often is, an adjunct of diseases of contiguous tissues, or more remotely, as also happens very frequently, as an effect of metastases of morbid actions, and likewise occasionally of morbid principles from distant parts of the body.

As a general principle, the treatment of chronic inflammation of the womb should be founded on two principal indications; viz. first, that of subduing the inflammation; and secondly, that of restoring the patient to her former state of general health and strength. Of these objects, the former may often be attained by repeated but moderate local bleedings, by a repetition of blisters to the hypogastric and iliac regions, and especially by slight charges of mercury, such only as might suffice to produce a perceptible affection of the mouth; whilst the latter might be secured in the absence of organic disease, by the judicious exhibition of bitters and tonics, by rest in the horizontal position within a large and well-ventilated chamber, and by the use of a mild and a principally vegetable diet, and by abstinence on the part of the patient from all possible causes of irritation and excitement. Some mild varieties of chronic inflammation of the uterus are sometimes effects of its prolapsion, and other displacements of it from its natural position within the pelvic cavity. In the greater number of these cases the effect will cease after the removal of the cause. After replacing the womb in its natural situation, it will always require to be there sustained by a suitably adapted pessary. In a future article on pessaries, this part of our subject will obtain further illustration. For the successful treatment of contagious and other specific inflammations of the unimpregnated uterus, it is obvious that certain specific as well as more general remedies must be made available. It is well known that all the inflammations incident to the malignant diseases of this organ are in their very nature incurable by any known remedies.

Is the uterus, independent of any known or ascertainable disease of its proper tissue, liable to any increment of its volume which could accurately be denominated hypertrophy? The author has never met with an example of such a disease. How far the following remarks of Dr. Baillie, *Morbid Anatomy*, Fifth Edition, p. 382, may bear upon the question, he will leave his reader to judge. "ENLARGEMENT AND HARDNESS OF THE UTERUS." "It sometimes happens, although not very often, that the uterus enlarges in its size, and becomes much harder than in its natural state. This change corresponds in some respects to that of scirrhus in other parts of the body, and commonly extends over the whole of the uterus. It is difficult to say to what size the uterus may at length arrive in the progress of this disease; but I have seen it in one case as

large as the gravid uterus at the sixth month. If a transverse section be made of the womb in this state, it is found to consist of a hard substance intersected by thick membranes. Ulceration hardly ever takes place in this condition of the uterus. I recollect one instance in which there was some appearance of it; but I may have made this remark too hastily, and may have been deceived. Tubercles are occasionally formed in this state of the uterus; being as it were embedded in its substance; and they have a structure very much resembling that of the uterus itself."

Among the diseases of the uterus in its unimpregnated state, we should not altogether omit to notice those of its mucous membrane, including the cellular tissue, by which it is supposed to be attached to its contiguous parenchyma. The mucous membrane of the uterus is especially liable to simple inflammatory action, accompanied by an excessive discharge of its natural secretion; the discharge in question being more or less viscid, or fluid, or limpid, leucorrheal, purulent, or admixed with red particles of blood, as the nature of the case might be. Several cases of severe inflammation of the mucous membrane of the interior of the body of the uterus, accompanied and possibly produced by the presence of small granular bodies in a state of irritation, are quoted by Morgagni. The same learned author moreover refers to cases of pustular ulcers, as also to minute carunculous bodies, which in the course of his dissections he had met within the uterine cavity. These several diseased states of the mucous membrane of the womb should be expected to be attended, as they always are, by profuse muco-purulent discharges of a very offensive character from the genitals. Madame Boivin, and her literary associate, have an entire chapter on granular inflammation of the orifice of the uterus: "We have seen, they observe, that ulceration has sometimes accompanied a soft intumescence, a state of inflammatory congestion marked by a deep red colour, ecchymosis, easy escape of blood from the vessels of the part, and extreme sensibility of the os tinæ, with an abundant leucorrheal discharge. We recollect having met with this state of things still more strongly marked, and accompanied by a venereal pruritus so intense as in some cases to produce nymphomania, which in their proper place we shall lay before the reader. In the pathological history of some of those cases, he will be able to recognise a variety of disease, which as yet has nowhere been well described. It is in fact a change of structure so uncommon that it escaped the observation of practical men, until of late years, when it has become a practice to use the speculum. In a certain number of cases it has been altogether mistaken; since it could not be distinguished by any local symptoms, or because it sometimes accompanied other lesions of still greater importance. The reader will observe, that in the particular cases now being referred to, and to be hereafter described, could scarcely be expected to be adequately ascertained by the taxis alone, inasmuch as it could rarely present to that sense, characters sufficiently precise and well marked. When the granulations in question are

hard, they are then extremely minute, scarcely larger than a grain of sand; and when they are of larger size, they are often so soft as easily to impose upon the taxis of persons of little experience in such matters.

There appear to be two essentially different states of parts under which granulations of the *os tincæ* have presented themselves, which, in respect both to their etiology and indications of treatment, would seem to admit of being very usefully distinguished by the epithets sub-acute and chronic.

To the first class belong cases accompanied by pains and redness, etc. Of these, the pimples or granular elevations, which are discovered by the speculum, are an affection of the labia of the *os tincæ*. They are seldom very numerous. They are sometimes of about the size of peas, sub-pediculated, of a whitish colour, and very firm; but more frequently they are of the volume of a grain of millet seed, and then also of a whitish colour, but soft; and we might almost say vesiculous, very numerous, and always without any appearance of a pedicle. It is the interstices between these pimply prominences that furnish the material of the sanguineous discharge; which is easily produced by the contact of the speculum in the operation of examination *per vaginam*, or that which takes place during the act of the sexual congress, or even sometimes in consequence simply of the free use of injections.

To the second, or chronic variety of affections of this kind, belong hard, small, and whitish granulations, with red or reddish heads, without being hard, or rather somewhat soft, and at the same time miliary; but without either redness or softness of the *os tincæ* itself, from which they take their origin.

We should not be justified in asserting that these small excrescences must always be of the same identical character. The contrary, indeed, might be inferred from the fact that their etiology is far from being always the same, and that it is often obscure and uncertain, or even presenting points of resemblance to other diseased states of the uterus, as to certain results of abortions or of derangements of the catamenial function, etc. They have sometimes appeared to bear a strong analogy to certain varieties of herpetic eruptions, and to other affections of the genitals of a more specific character." After noticing several presumable causes of these granular inflammations of the orifice of the uterus, such as obstructed menstruation, fatigue from long standing, personal exertions incident to laborious occupations, habitual constipation, hypertrophy of the affected organ, and organic extension of the follicular tissue of the mucous membrane of the part itself, as also possibly of that of the vagina; our united authors proceed to the detail of divers remedies adapted, as they profess, to the more obvious forms, stages, and varieties of granular inflammations, to be made the subjects of treatment. Local bleeding and emollients are accordingly recommended in sub-acute cases; tonics and stimulants in chronic cases; and mercurials for the treatment of diseased affections of analogous appearances when supposed to have been derived from a venereal source. The use of caustics, which our authors call derivatives, applied, it is supposed, to the parts affected through

a speculum, is noticed with great approbation. *Traité Pratique des Maladies de l'Uterus et de ses annexes*, tom. ii. p. 332.

The natural secretion of the lining membrane of the womb is universally known to be essentially *MUCOUS*. Yet we have some [extraordinary examples recorded of daily distillations, from the female genitals, of immense quantities of *SERUM*, or at all events, of watery-looking fluids. In gestations with *molæ* this state of things might appear sufficiently intelligible. But that there should be a daily distillation of a non-viscid fluid from an uterus presumed not to contain *molæ* nor to have any communication with the peritoneal cavity, is a position in pathology, of the truth of which the author acknowledges he feels great doubt. He has never met with an example of it in his own practice, nor is he aware that any case of the kind ever occurred within the experience of his late obstetric friends, Drs. Denman, Sims, Clarke, or Haighton; nor indeed any that he has heard of more recently in the practice of any competent reporter of such matters within the circle of his present acquaintance. On the supposition of a morbid intercommunication between the uterine and abdominal cavities, added to that of an imperforate state of the orifice of the uterus, a consequence sometimes of cohesion of its labia from disease, we may pretty well understand how the former cavity may become the reservoir of prodigious accumulations of this description, such indeed as are to be found recorded in books. Of this variety of dropsy Dr. Baillie gives the following account. "Water has sometimes been known to be accumulated in the cavity of the uterus in very large quantity. *Lieutand*, tom. i. p. 319. p. 333. In some cases fifty, sixty, or even a hundred pints have been said to be so accumulated. This water is sometimes bloody in its appearance, and sometimes of a yellowish colour. Of its nature I cannot speak particularly, as I have never seen an instance of this disease. I think it probable, however, that the water accumulated in the cavity of the uterus resembles the serum in its properties, AND THAT IT IS POURED OUT BY THE SMALL CURLING ARTERIES OF THE UTERUS. In cases where water is really accumulated in the cavity of the uterus, one must suppose a stricture of the cervix, otherwise the water would escape gradually into the vagina as it is formed. I am disposed to believe, however, that where water has been said to be accumulated in the cavity of the uterus, it has frequently been really in one or more large hydatids formed in that cavity. Dr. Denman had an opportunity of observing a case where water was accumulated in one large hydatid of the uterus." *Baillie's Morbid Anatomy*, p. 394. See a learned dissertation by P. Camper, having for its object to prove that proper dropsy of the uterus cannot exist. *Mém. de la Société Royale de Médecine*, p. 124.

Connected with some diseased condition of the mucous membrane of the uterus, accumulations of gaseous fluids have sometimes been found to distend its cavity. This is an example of a rare disease, and its pathology is not well understood. "The air," observes Dr. Baillie, "is probably formed by the small bloodvessels of the uterus in a manner analogous to secretion, and its pro-

perties are at present unknown.' *Morbid Anatomy*, p. 394. In this disease the air is seldom collected in large quantities, but escapes from time to time with a noise similar to that which is occasioned by the escape of air from the rectum. This result has in some cases been so exceedingly troublesome as to have proved a cause of seclusion from society. Whatever the change in the action of the affected organ may be, it is always accompanied by an excessive secretion of a viscid mucus-like fluid. It is not usually considered as an essential cause of sterility, and it is known to have been cured by pregnancy. When the air secreted becomes totally retained, it produces an important variety of tympanitis. An interesting case of this kind may be found recorded by Dr. Ambrose Stegmann, in the *German Ephemerides*, dec. iii. an. 7, p. 56. "The uterus is sometimes observed to counterfeit the phenomena of pregnancy; but ultimately, and when the destined period arrives for its expulsion or escape, instead of the legitimate fruit of conception, only a spurious vapour is produced. Such was the case, for example, of a little woman of my acquaintance; who from the first day to the last of her supposed gestation verily believed that she was pregnant. The ninth month at length arrived. But the anticipated event was once and again put off to a later period; and then the greatest silence was observed as to the birth of the child. In the mean time the bulk of the abdomen of the little woman grew larger from day to day; so that the poor creature was under great apprehension of its rupturing: for she was under the necessity of occupying herself in constant bodily labour. It happened however, that in about two years and three months after the commencement of her supposed gestation, she was thrown down by a certain dealer in beer, whether in play or not I know not, in consequence of which, she was freed most unexpectedly of her false pregnancy: for when she came down, which she did with great force on her nates, a quantity of flatus escaped from her uterus with an explosion similar to that of a small fire-piece. Other discharges of flatus succeeding, the abdomen gradually subsided, and it nearly recovered its former size." In a chronic affection of this kind, in a case of unclosed orifice of the uterus, our principal indication of treatment should be to restore the tone of the affected organ by injecting into its cavity astringent and substimulant fluids three or four times a day by means of a small wooden syringe, having a small pipe of platina attached to it, one sufficiently small to admit of its being passed through the cervix uteri, and of sufficient length to reach the uterine cavity. A solution of nitrate of silver, of gradually increasing strength, might be expected to answer the purpose of this indication as well at least, if not better, than most other solutions of salts and metallic salines that are commonly employed for such purposes. But the practitioner need not confine himself to the use of any one form or material of injection. Wines, medicated spirits, decoctions, and possibly infusions of sundry articles of the materia, might generally perfectly safely be made available to his purpose. The remaining indication in the management of a case of chronic tympanitis of the uterus would be to restore the general health, when

affected, and it generally is greatly affected by tonic medicines, such as bark with sulphuric acid; and carbonate of iron in two or three dram doses; corresponding doses of ioduret of iron, a beautiful preparation of that metal recently introduced by Professor A. T. Thomson; judicious exercise; travelling; marine residence; the daily use of a tepid salt-water bath, and at another hour of the day a cold water douch, especially applied to the pubes and uterine region. In cases of much general cachexia, might not mercury, exhibited in a sufficient charge moderately to affect the mouth, be advantageously tried?

The DIAGNOSIS between dropsy and tympanitis of the uterus can only be difficult from want of opportunities to make the requisite comparisons; both diseases being of very unfrequent occurrence. The globular body of the distended uterus, in the one case, would necessarily be felt much more weighty than in the other. In the one also there would be a more or less distinct fluctuation to be recognised; whereas in the other there would be the usual feel and sound peculiar to elastic bodies. Pomme, in his *Treatise on Nervous Diseases*, remarks of one of his hysterical patients, that her body could not be made to sink in the water of her warm-bath. In cases of gas being generated by the uterine cavity, without being subsequently retained, no operation like that of paracentesis could be necessary; inasmuch as the accumulated flatus might reasonably be expected to escape without the intervention of any operation whatever. Portal, in his *Anatomie Médicale*, records a case illustrative of this result: "A young woman, aged twenty-three, whose menses had been suppressed upwards of six months, and for whom many remedies had been prescribed without effect, was supposed to have become the subject of dropsy. The operation of paracentesis was proposed to be performed upon her. The day for its performance was appointed; the surgeon went to the patient's residence for the purpose of performing it; but upon the patient getting out of bed, it was observed that she no longer needed any operation; her previously excessive magnitude having totally disappeared." *Anat. Médicale*, tom. v. p. 525. Before it could be proper to perform the operation of paracentesis in cases of this description, it would be necessary to establish with great precision, and beyond all manner of doubt, the diagnosis of the malady, and whether such an operation might not be superseded by a successful attempt to effect an adequate dilatation of the orifice of the uterus. A stricture of limited extent would doubtless often yield to the action of moderate force. A cohesion of surfaces of recent formation, the author can assert from experience, frequently admits of being easily separated by a very small amount of force properly applied by a well-adapted instrument.

